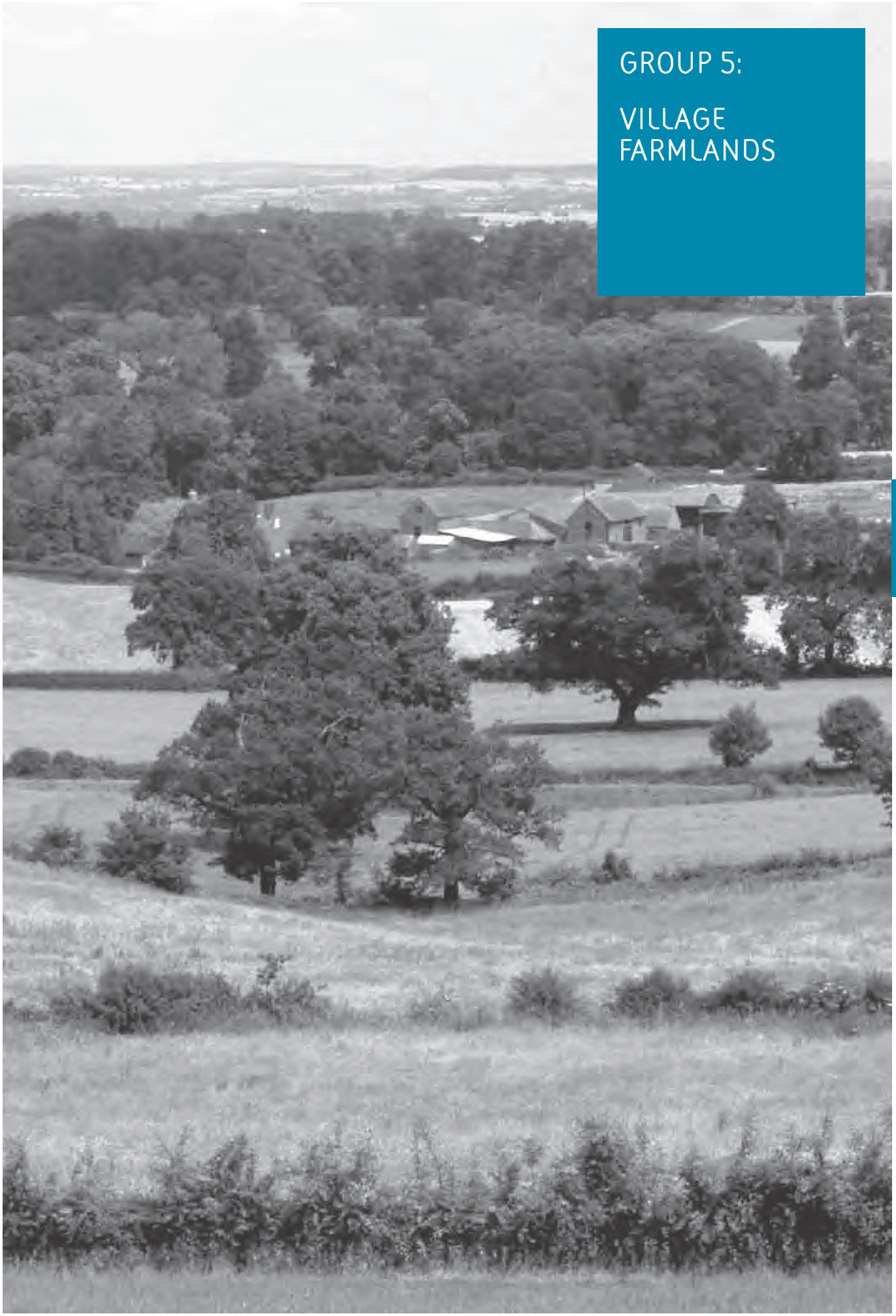
GROUP 5:

VILLAGE FARMLANDS



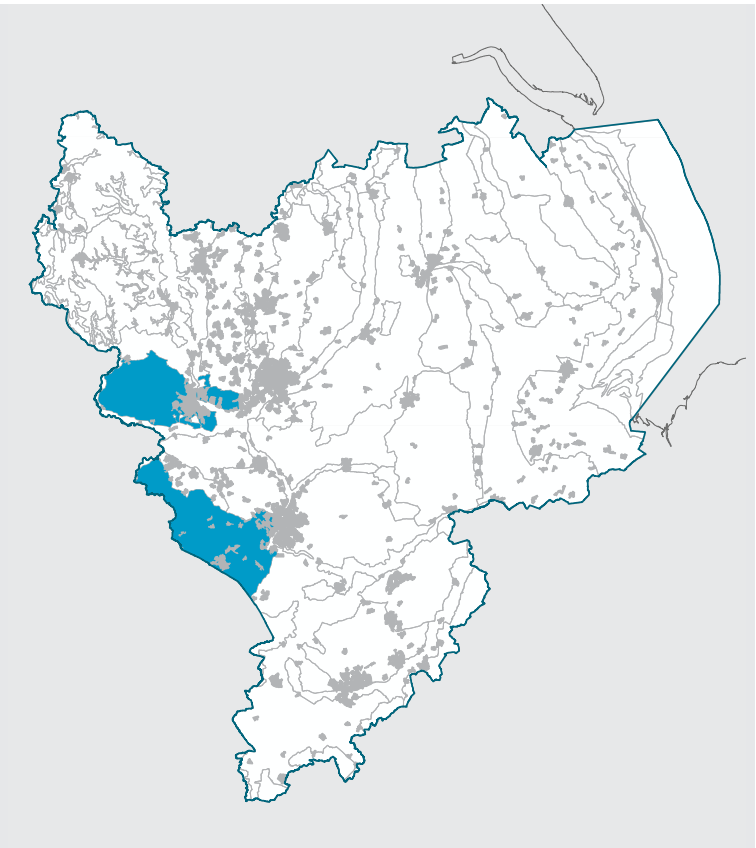
GROUP 5
PAGES 149-174

Rolling landform and frequent woodland and hedgerow trees are characteristic of the Village Farmlands (© Derbyshire County Council)

5A:

VILLAGE FARMLANDS

Gently undulating landscape with well treed character (© Derbyshire County Council)



KEY CHARACTERISTICS

- Gently undulating lowlands, dissected by stream valleys with localised steep slopes and alluvial floodplains;
- Moderately fertile loamy and clayey soils with impeded drainage over extensive till deposits on higher ground and gravel terraces bordering main rivers;
- Mixed agricultural regime, with localised variations but with a predominance of either dairy farming on permanent pastures, or arable cropping;
- Small and moderately sized broadleaved woodlands and copses, often on sloping land; extensive new areas of planting associated with The National Forest;
- Hedgerows and frequent oak and ash trees along hedgelines and streams contribute to well treed character of landscape;
- Moderately sized well maintained hedged fields across rolling landform create patchwork landscape of contrasting colours and textures;
- Extensive ridge and furrow and small historic villages linked by winding lanes contribute to historic and rural character of the landscape; and
- Localised influence of large estates.

LANDSCAPE CHARACTER

The Village Farmlands Landscape Character Type forms part of an extensive tract of landscape that extends beyond the Study Area and across wide areas of the West Midlands. The landscape is characterised by undulating farmlands over Triassic and Permian geology, with localised influences arising from superficial deposits of till on elevated areas and gravel terraces and alluvial flats fringing rivers and streams.

The base rich soils that can be easily improved are widely used for arable cropping. However, wide areas, notably on the less well drained clays, are characterised by verdant improved pastures grazed by cattle. The intensive nature of farming across the landscape has resulted in only limited remnants of semi natural vegetation. However, woodlands, copses and occasional meadows and unimproved grasslands are important, as are areas of connective habitats such as hedgerows and river corridors.

The landscape also has a relatively intact historic character, with sinuous hedgerow patterns, remnant areas of ridge and furrow and winding rural lanes, evocative of medieval land management. Country houses also exert a strong, albeit localised influence on the landscape, with landscaped parks particularly prominent in the vicinity of Derby. Their influence can also be seen in the wider landscape in the form of game coverts, small scale plantations and estate farms.

The rural landscape, whilst not particularly tranquil, retains a quiet, rural character that appears to have changed little over recent decades. Modern development on the fringes of villages is particularly notable, although most settlements retain their rural and historic character. New woodland planting associated with The National Forest is also significant in changing the character of the landscape.

PHYSICAL INFLUENCES

The underlying geology of Permian and Triassic mudstone, siltstone and sandstone gives rise to a gently undulating lowland landscape that is further softened by extensive deposits of till and by gravel terrace deposits and alluvial floodplains fringing the main river channels.

The most elevated areas rise to approximately 250m AOD on the fringes of neighbouring uplands and fall to 60m AOD bordering the River Trent. Numerous streams drain the neighbouring uplands into the Trent and its major tributaries. These flow along relatively steeply incised valleys in more elevated areas, further contributing to the undulating character of the landscape. As they enter the lowlands the valleys become shallower, the slower flowing streams depositing silts and clays to create narrow alluvial floodplains.

The main geodiversity interest within the landscape type is associated with geological exposures within the brick clay quarries in western Leicestershire that show good sequences of the Mercia Mudstone Group. The long term retention of these exposures will require the application of practices for the care, maintenance and management of features of geodiversity interest and the promotion of their educational and interpretational interest, and in particular through appropriate restoration plans.

Needwood and South Derbyshire Claylands
(© Martin Banham, Natural England)

Soils are generally reddish loamy and clayey soils. Slowly permeable and seasonally wet soils are widespread over the elevated areas where till deposits cloak the underlying geology. Here the moderately fertile soils are used for grazing livestock, their susceptibility to periods of waterlogging evident in poached pastures. Elsewhere, and notably across the lower lying areas, arable land uses on the moderately fertile soils are more prevalent, albeit forming part of a mixed agricultural regime.

Widespread agricultural improvement and intensive farming has limited the retention of large areas of semi-natural habitat across the Village Farmlands landscape. However, some isolated examples of unimproved grassland and hay meadow are notable close to farmsteads and on steeper slopes fringing stream channels.

Whilst not extensive, small broadleaved woodlands, coverts and copses are locally important biodiversity assets. Several woodlands are classified as ancient and whilst generally of a small scale, they can form important habitat reservoirs within extensive tracts of intensively managed farmland. Several hundred hectares of new woodland planting have also taken place as part of The National Forest initiative between Walton-on-Trent (Derbyshire) and Ibstock (Leicestershire). Once established this will add significantly to the wooded character of the landscape, perhaps of sufficient magnitude to require revisions to the boundary of the Village Farmlands and neighbouring Settled Coalfield Farmlands in Leicestershire on which the initiative is centred.

Hedgerows, hedgerow trees, predominantly comprising oak and ash, and riparian habitats with trees such as alder and willow along streams are also locally important, acting as corridors between remnant woodlands and unimproved grasslands as well as representing locally important habitats in themselves for a range of birds, mammals and invertebrates.

CULTURAL INFLUENCES

Scattered evidence of Neolithic and Bronze Age occupation generally indicates that early settlement spread outwards from the main river valleys onto the more marginal clay hills, and that occupation gradually became more widespread throughout the Iron Age and Roman periods. Whilst two major Roman roads (Fosse Way and Long Lane) traverse the Village Farmlands landscape, there appears to have been limited non military Roman influences and it is possible that large areas remained wooded and were only thinly settled until the Saxon period.

Therefore, the most widespread evidence of early settlement is derived from the Saxon place names. The majority of names contain 'ton' and 'bury' indicating that these villages and farms were established in an already cleared landscape. However, many settlement names contain the suffix 'leigh' or 'ley' indicating that they were established as clearings in woodlands. It is also interesting to note that settlements are commonly located on low hills off the till and close to river valleys, perhaps to take advantage of the better drained and more easily worked soils. Many village names that are located closer to rivers and streams contain the element 'ford', indicating that they originated at strategic crossing points.

Ridge and furrow, preserved beneath areas of permanent pasture, and sinuous and irregular strip field systems are both features associated with medieval land management, and are widespread in the Village Farmlands, adding significantly to the historic character of the landscape. These ancient enclosures and evocative traces of past ploughing regimes are typically found in close proximity to villages; the wider medieval landscape probably comprising common grazing land and woodland on the more difficult to work clays.

From the mid 17th century onwards, the open fields, common wastes and woods around villages were cleared and enclosed. Again, traces of this can be seen across the landscape, with various patterns indicating enclosure by both private individuals and by awards.

Some reorganisation of the landscape also occurred from the late 19th century as a consequence of Parliamentary Enclosure. Whilst evidence of professional surveyors dividing up the underlying organic patterns of fields and tracks with ruler straight field boundaries and enclosure roads is evident, much of the landscape appears to retain significant tracts of pre-parliamentary enclosure land division as well as ancient tracks and roads, often winding through the landscape and bordered by tall hedgerows or occupying deep cuttings.

The landscape generally escaped widespread change throughout the industrial and modern periods. Indeed, beyond the construction of transport infrastructure, such as canals, major roads and rail lines, there are some parts of the Village Farmlands landscape that appear much as they would have done at the turn of the 20th century.

Most settlements are nucleated with older properties clustered around an ancient church, typically located at the heart of the settlement and constructed from local sandstone. Whilst some older stone cottages and half timbered structures survive in many settlements and add significantly to local historic character, the principal building material used in the older houses in villages and hamlets is local brick with tile roofs, indicating that much rebuilding took place from the Georgian period onwards. In contrast to the rural settlement character prevalent in Derbyshire, villages in Leicestershire saw rapid expansion in the 19th and 20th centuries, identifiable as terraces of red brick and slate roofed houses. More recent village expansion and infilling is also conspicuous here, and several former rural settlements have grown significantly to small town status, notably fringing the M69 to the west of Leicester as at Earl Shilton and Barwell.

Whilst not a particularly common feature of the landscape, parklands associated with large country houses are a locally significant feature of the Village Farmlands. This is particularly the case around the fringes of Derby, with Locko Park, Kedleston Hall, Elvaston Castle and Sudbury Hall, as well as numerous smaller parks, being notable for their influence on local landscape character. Here, rural areas beyond the bounds of the park display the influence of the controlling landowner, typically through the increased occurrence of small-scale plantations, game coverts and large estate farm complexes.

AESTHETIC AND PERCEPTUAL QUALITIES

The Village Farmlands, whilst displaying local variations in land use, is a visually unified landscape consisting of a limited palette of elements and features. The gently folded and undulating landform is particularly important in creating a cohesive landscape framework. However, it is the mixed agricultural regime, frequent small copses and woodlands and hedgerow networks that create a particularly strong and identifiable landscape character.

Whilst not being particularly tranquil or remote, the landscape possesses a quiet quality, with areas of rural and historic character. The narrow winding lanes linking small nucleated villages and remnant ridge and furrow are particularly significant in contributing to historic character, as are the sinuous and irregular field patterns and intermittent woodlands. This historic character is further enhanced in areas that are more remote from the effects of the principal transport infrastructure and urban fringe development.

Despite a low level of woodland cover, hedgerow and field trees, as well as those along river streams and rivers, are well represented and make a significant contribution to landscape character. Collectively, trees in the landscape, despite sometimes being widely distributed, filter views and along with the undulating nature of landform and intermittent copses and woodlands, create a strong sense of enclosure. The well treed character of the landscape is further supplemented by parklands, which are often characterised by belts of perimeter trees, plantations and coverts.

Trees and woodlands create a sense of physical and visual enclosure; however, some relatively wide panoramas are possible from elevated areas and along or across wide valleys. In many instances, church spires and towers are prominent landmarks, punctuating the horizon. Farm complexes are also notable, occupying elevated areas of landform between the valleys.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Villages are under increasing pressure from development, especially those closer to Derby and Leicester, which are popular with commuters. In-fill development on available land within settlement boundaries, and development on village margins, can damage architectural and historic character, create visual intrusion and extend the urban fringe into the countryside.

Large scale mixed-use development is also occurring on the outskirts of Leicester, Nottingham and Derby, with a number of edges of these settlements adjoining the Village Farmlands Landscape Character Type. With their location within the identified Growth Points they are targeted to receive significant levels of new mixed use development in the short and longer term. This is particularly evident along the main routes in and out of the cities, such as the M69 and A38, where development can utilise existing transport infrastructure.

Shaping the Future Landscape

The aim should be to protect the character of villages and consider the visual impact of any new development. Specific mechanisms include Village Design Statements, guiding the design of new development, and ensuring the appropriate use of vernacular styles and building materials; and best practice innovative architectural ideas and planning solutions that minimise impact on local landscape and townscape character. As well as Village and Town Design Statements, Conservation Area Appraisals can also be important tools. Planting of new trees around settlement fringes should also be encouraged, helping to integrate new development into the landscape.

The aim should be to manage the growth of larger settlements, ensuring development is appropriate in terms of design and scale. As with development in more rural areas, tree and woodland planting can help minimise adverse impacts. There should also be a place for the use of innovative architectural solutions that take inspiration from local distinctiveness and character whilst utilising eco-friendly and high quality design. Care should also be taken to prevent coalescence, ensuring separation is maintained between the urban fringe and surrounding settlements.

INFRASTRUCTURE

Forces for Change

Although parts of the landscape type retain a quiet, rural character, a network of transport routes crosses the landscape, in particular major roads such as the M42, M69, A5 and A50. Continued improvements to roads, including new junctions and road widening, further fragment the landscape and reduce the sense of tranquillity, whilst also generating opportunities for further development. Road improvements are also occurring on the network of minor roads, better connecting isolated villages with larger towns and cities.

Although the East Midlands Airport is located in the adjacent Wooded Village Farmlands, the wider area beyond the airport, including parts of the Village Farmlands, is affected by the aircraft activity and can adversely affect the tranquillity of quieter rural areas. This potential expansion of the airport will impact further on the loss of tranquillity.

Shaping the Future Landscape

The aim should be to manage the expansion of the transport network, ensuring improvements are carefully planned to provide positive environmental and landscape enhancements. In more rural areas, road improvements should reflect local character and avoid bringing a degree of standardisation to the countryside.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

The Village Farmlands has a mixed agricultural regime, with localised variations in permanent pastures and arable cropping. While the landscape generally has an intact and well maintained appearance, some areas have suffered from a loss of hedgerows and hedgerow trees, resulting in larger fields and a sense of exposure. The intensification of farming across the landscape has also resulted in the loss of semi-natural habitats, leaving occasional areas of meadow and unimproved grassland.

In some locations energy crops, in particular Miscanthus and Short Rotation Coppice, are being cultivated to meet renewable energy targets. These fast growing and tall crops can radically change the appearance of the landscape. There is also a requirement for storage and processing facilities, which along with other new agricultural buildings, can reduce the sense of remoteness in rural areas and cause visual intrusion.

Shaping the Future Landscape

The aim should be to protect existing hedgerows and semi-natural habitats, whilst encouraging positive management of those features lost or under threat. This will create a stronger pattern of land use and reinforce the rural character. In particular, the restoration of meadow and grassland should be considered, enhancing biodiversity and landscape character. Linear features in this landscape, such the Ashby Canal, dismantled railways and numerous streams could also benefit from habitat enhancement to improve connectivity.

In relation to energy crops, new structures should be located away from visually prominent locations, and close to existing settlement and infrastructure. Although the introduction of energy crops will be more difficult to manage, grant applications to Natural England or the Forestry Commission may require an assessment of landscape and visual impacts.

FORESTRY AND WOODLAND

Forces for Change

Woodlands in the Village Farmlands are typically small and scattered. Small scale woodland and tree planting could be used in and around settlements to integrate new development into the landscape and in more intimate low-lying areas to help maintain a mixed pattern of land-use. More extensive woodland planting is anticipated arising from The National Forest initiative with the potential to have a significant influence on local landscape character.

Shaping the Future Landscape

Outside of The National Forest, the aim should be to plant new small-scale woodland in suitable locations and consider the management of existing trees and woodland. The opportunity exists to enhance biodiversity value and age structure through new planting and creation of woodland edge habitats. Such proposals should be undertaken in collaboration with the Forestry Commission and local landowners, and financial support may be available through the English Woodland Grant Scheme.

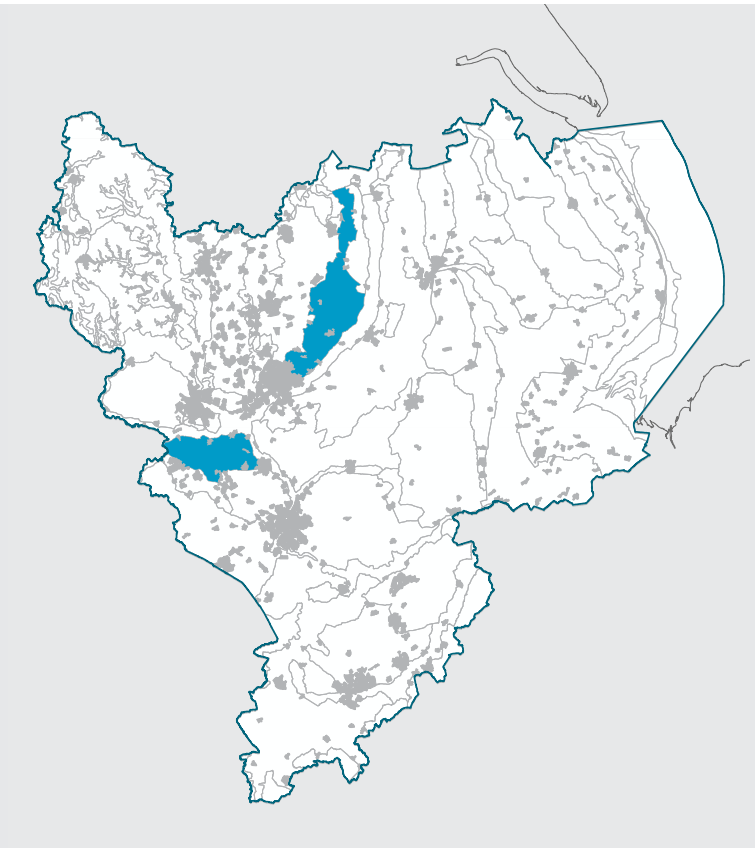
For those areas that lie within The National Forest, design guidance for woodland creation should be in accordance with the National Forest Strategy, 2004-14 that has been consulted on and endorsed at the national level. The aim should be to plan for new woodlands, ensuring new planting schemes take full advantage of opportunities to enhance nature conservation and recreation, whilst respecting the pattern and scale of the landscape.

The National Forest Strategy highlights the potential for large scale plantations and community woodlands in this landscape type, complementing the pattern of the large scale fields. In addition, a range of other tree and woodland planting is recommended including farm woodlands in more open area. Where possible, new woodlands would be linked with existing semi-natural woodland, together with improvements to hedgerows and riparian habitats along streams and rivers.

5B:

WOODED VILLAGE FARMLANDS

Prominent woodland on hills and valley sides (© Derbyshire County Council)



KEY CHARACTERISTICS

- Varied topography, ranging from gently undulating farmlands to rolling hills, becks and steep sided valleys, locally known as 'Dumbles';
- Scattered farm woodlands, ancient woodlands on prominent hills and tree lined valleys contribute to a well wooded character;
- Well maintained pattern of hedged fields enclosing pasture and arable fields, with evidence of decline close to urban areas;
- Sparsely settled, with traditional pattern of farms and small rural villages linked by quiet country lanes; and
- Strong sense of landscape history.

LANDSCAPE CHARACTER

The Wooded Village Farmlands Landscape Character Type is characterised by productive and well wooded rolling farmlands and valleys over Triassic, Permian and Carboniferous geology, with localised influences arising from harder bands of rock and alluvial flats fringing rivers and streams.

The base-rich soils that can be easily improved are widely used for arable cropping, but areas, on the less well drained clays and along alluvial flood plains, are often characterised by verdant improved pastures grazed by cattle. Only limited remnants of semi natural vegetation remain in the agricultural landscape. However, broadleaved woodlands, copses and occasional meadows and unimproved grasslands in parkland are important, as are areas of connective habitats such as species rich grasslands, hedgerows and river corridors.

The landscape also has a relatively intact historic character, with sinuous hedgerow patterns and winding rural lanes evocative of medieval land management. Country houses also exert a strong, albeit localised influence on the landscape, with landscaped parks particularly prominent in the vicinity of Melbourne. Their influence can also be seen in the wider landscape in the form of game coverts, small scale plantations and estate farms.

The landscape, whilst not particularly tranquil, retains a quiet, rural character that appears to have changed little over recent decades. Some areas, notably those close to larger towns, are showing signs of decline, as are hedgerow networks in areas where there is an intensification of arable production.

PHYSICAL INFLUENCES

Although the Wooded Village Farmlands is underlain by a range of bedrocks it is principally associated with a broad belt of Triassic mudstone, siltstone and sandstone that extends northwards to the Humberhead levels in South Yorkshire and southwards into the West Midlands. Localised areas of Carboniferous sandstones and Coal Measures are also evident. However, their extent is more limited and it is the continuity of land cover and land use that creates a visually cohesive landscape.

The outcrops of Carboniferous Limestone and Millstone Grit that occur in the vicinity of Melbourne, together with the Sherwood Sandstone to the west, have a localised impact on landscape character with a distinctive dip and scarp topography with the sandstone beds forming pronounced dip slopes. The most widely recognised limestone outcrop is at Breedon Hill. Here the limestone has been extensively quarried. The church located at the top of the hill has survived and continues to command the local skyline. A further large quarry, Cloud Hill, is located nearby at Breedon Cloud. Other extensive outcrops of limestone occur around Ticknall and Calke Abbey and were also quarried.

Melbourne Parklands from Breedon Hill (© Martin Banham, Natural England)

The underlying Triassic bedrock generally gives rise to low rolling topography. However, where alternating bands of harder and softer rock formations occur, a much more varied and undulating landform is evident. There are also only limited superficial deposits of till and gravel terraces across the landscape. Elsewhere in the region, these deposits soften landform features and create more gently undulating landscape. As such, relief features tend to be more dramatic than elsewhere over Triassic geology.

Although the Mercia Mudstone lowland areas to the north of Nottingham offer limited geodiversity interest there are good geological exposure potential in a brick quarry at Dorkett Hill near Nottingham. In contrast, the Carboniferous Limestone and Millstone Grit of the Melbourne area and Sherwood Sandstone to the west offer much greater potential for geodiversity interest as several working and abandoned quarries present good geological exposures. There are also some natural exposures and the sandstone is well displayed in buildings. Geomorphological features are also evident including a fossil Triassic inselberg at Breedon Hill. In view of the range of geodiversity and geomorphological features, it is important that practices are in place for their care, maintenance and management, and the promotion of their educational and interpretational interest,.

The impervious nature of the underlying geology has meant that the landscape has become heavily dissected by streams, which tend to occupy well defined valleys. Many of the valleys are floored by narrow alluvial floodplains, creating a flat floodplain fringed by steep valley sides. Valleys are particularly deeply incised bordering juvenile streams and gradually soften as they enter lower lying areas. Of particular local interest are the small, narrow ravines, often tributaries of the larger streams and rivers. These occur to the north of Nottingham and are known locally as Dumbles and Becks. Dumbles can be up to 10m deep and contain miniature waterfalls where harder bands of rock over softer strata have resisted erosion. Steep sided valleys are also evident close to Melbourne, although their topography is obscured by large reservoirs, created by damming of rivers, notably the two major reservoirs of Foremark and Staunton Harrold.

The underlying geology gives rise to fertile, slightly acidic loamy and clayey soils with impeded drainage. Once improved, these are particularly well suited to arable cultivation, and as such this is the predominant land use. Areas of less fertile and permeable soils are also evident, giving rise to pastoral land uses.

Agricultural improvement and intensive farming has limited the retention of semi-natural habitats, although localised areas of species rich meadows and rushy riverside pastures are evident. The most prominent semi natural habitat is broadleaved woodland, which is an important component of the landscape, adding significantly to nature conservation interest in an otherwise intensively managed agricultural landscape. Woodlands are typically deciduous or mixed and are generally small to medium size. Of particular importance is the wide distribution of ancient woodlands, often prominently sited on hilltops and rising land. Parklands and estate copses and coverts further add to the well-wooded character of the landscape, as do the many willow lined streams and hedgerow trees. The nature conservation value of ancient woodlands and parkland habitats is evident in the widespread designation of these features as SSSIs.

As with other agricultural areas in the lowlands, hedgerows, hedgerow trees, riparian habitats and pollarded willows along streams are important as corridors between remnant woodlands and unimproved grasslands. However, across wide areas, and notably areas of intensive arable production, hedgerows are gappy, low and heavily clipped with few hedgerow trees. Hedgerows tend to be better maintained and form continuous habitat networks across steeper landform and on estate farmlands.

CULTURAL INFLUENCES

Scattered evidence of prehistoric occupation in the Wooded Village Farmlands is suggestive of activity spreading out from the major river valleys. Clearance of woodland for settlement and farming would have been more widespread during the Iron Age and Roman periods. However, it was during the mid to late Saxon period that settlements became consolidated and the framework of the current landscape established.

Place names give some indication of the origins of settlement with derivations suggestive of both Saxon and Nordic influences. Many place names refer to woodland or woodland clearance, and some to the north east of Nottingham also mention animals, possibly relating to the responsibilities some communities had to pasturing royal herds.

Whilst being sparsely settled, villages appear to have been located beside watercourses to take advantage of better drained soils. These would have been surrounded by open fields and beyond these would have been blocks of woodland, often forming grazing for neighbouring communities to share. Traces of these earlier landscape patterns are evident in the irregular patterning of field boundaries, of winding country lanes and remnant ancient woodlands along parish boundaries. Indeed, at Laxton an almost complete picture of the medieval landscape survives, with the castle, manorial earthworks, fishponds, open strip fields and riverside meadows being a tangible link to a once more common scene.

Other than in the vicinity of Laxton, post medieval enclosure of the landscape was widespread, and it is to this period, and notably the later 18th and early 19th centuries that the geometric patterns of straight enclosure roads and hedgerows can be dated. Despite this, ancient boundaries and divisions can still be observed, notably in the intricate and organic boundaries of parishes and winding lanes. The late 18th and 19th centuries also saw the establishment of new farms in the rural landscape, and rebuilding of humble stud and mud or timber cottages in villages with brick.

Areas of parkland were enclosed during the medieval period to provide the sport for the nobility, often taking in areas of woodland, but also containing land for grazing and sometimes cultivation. Remnants of these medieval parklands are widespread in the Wooded Village Farmlands Landscape. For example, three parks were created close to the Archbishop of York's estate at Southwell, at Hexgreave, Norwood and Newpark. In the centuries following enclosure, many areas were converted to farmland or reduced in scale. However, others prospered and were modified to form fashionable parklands surrounding a country residence.

A notable concentration of impressive parks is evident close to Melbourne. During the Saxon period the area was a major ecclesiastic centre for the kingdom of Mercia and later monasteries were established at Calke, Repton and Gresley which had extensive parks in the surrounding area. Following the dissolution, these formed the basis for large private estates.

Recent decades have seen relatively little change in the rural landscape. However, as with some other areas in the region, increasing reversion to arable farming and decline in hedgerow networks, as well as the introduction of new crops such as oilseed rape has had an impact on local landscape character and perceptions of landscape condition. As with other rural landscapes in the region, major infrastructure such as the M1 has also had an effect on local landscape character.

Wooded Village Farmlands near Kedleston, (© P Clarke, Natural England)

AESTHETIC AND PERCEPTUAL QUALITIES

Undulating landform, mixed agricultural land use and relatively high levels of woodland cover creates a strong sense of visual unity across the landscape, with features such as Breedon Hill, large designed parklands and reservoirs south of Melbourne providing areas of local interest that are well integrated by a generally high level of tree cover.

Where field patterns remain intact, and local villages have seen limited late 20th century growth and development, the landscape retains a strong historic character, with tangible evidence of land use and settlement stretching back into the medieval period. Of particular significance are the ancient woodlands, organic field patterns and winding rural lanes between long established villages and hamlets. Set within this overall framework are sites of significant historic interest such as the medieval village of Laxton and designed parklands which display evidence of early emparkment, ecclesiastic origins and later fashions in architecture and landscape design.

Undulating landform and woodlands generally combine to create visual containment and sense of enclosure. Despite this, some panoramic and extensive views are possible from elevated locations where views are uninterrupted by intervening vegetation.

The landscape has a strong agricultural character, with wide areas retaining a sense of rural tranquillity and intactness, notably where ancient hedgerow patterns, woodlands and winding rural lanes have seen little modernisation. In some areas, and notably on the fringes of towns, or where agricultural regimes are shifting towards intensive arable production, gappy hedgerows and peri-urban land uses creates a sense that landscape quality is declining.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Villages within the Wooded Village Farmlands have seen limited growth and development. However, large scale modern mixed-use development is evident on the fringes of larger towns, such as Swadlincote and Loughborough, creating visual intrusion and resulting in the loss of surrounding countryside.

Shaping the Future Landscape

The aim should be to manage the growth of larger settlements, ensuring development is appropriate in terms of design and scale, and consider the visual impact of any new development. Specific mechanisms include best practice innovative architectural designs and planning solutions, and planting of trees, helping to integrate new development into the landscape. Care should also be taken to prevent coalescence, ensuring separation is maintained between the urban fringe and surrounding settlements.

INFRASTRUCTURE

Forces for Change

Localised road improvements are evident in the road network, especially near larger settlements and around the East Midlands Airport, where existing routes are being straightened and widened to accommodate increased levels of traffic. This has an urbanising effect and brings a degree of standardisation to the countryside.

If the potential expansion of the footprint of the East Midlands airport goes ahead, this will have significant effects on the landscape including the extended transport infrastructure, and noise and lighting associated with increased aircraft movements. There will also be an adverse effect on the tranquillity of the surrounding area.

Shaping the Future Landscape

The aim should be to manage road improvements, ensuring improvements provide positive environmental and landscape enhancements and maintain the character of the rural road network. Measures may include grassland, hedgerows and tree planting along road verges to enhance character and increase the occurrence of semi-natural habitats.

With regard to the potential extension of the East Midlands airport, the aim should be to mitigate for the visual effects of the development through innovative and sensitively designed buildings and associated structures and off site woodland planting that is appropriate to the character of the area.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

There is marked evidence of agricultural intensification, accompanied by a move towards arable production. This has resulted in the loss or damage of many typical landscape features, including traditional field boundaries and areas of ridge and furrow, contributing to a more homogenous landscape. The loss of pasture is particularly evident along the various rivers and streams which traverse the countryside.

Areas of parkland are also a feature of this landscape, contributing to the variety of land use and land cover. However, not all of the parkland is well managed and areas of pasture and woodland have been lost to increasing agricultural intensification.

In some locations energy crops, in particular Miscanthus and Short Rotation Coppice, are being cultivated to meet renewable energy targets. These fast growing and tall crops can radically change the appearance of the landscape. There is also a requirement for storage and processing facilities, which along with other new agricultural buildings, can reduce the sense of remoteness in rural areas and cause visual intrusion.

Shaping the Future Landscape

The aim should be to protect existing rural landscape features, whilst encouraging positive management of those features lost or under threat. The restoration of hedgerows should be given priority, along with an increase in pasture, creating a stronger and more mixed pattern of land use. This will be particularly beneficial along watercourses, enhancing their visibility and creating a more integrated habitat network.

The aim should also be to manage parklands, ensuring their reinstatement and sustained contribution to landscape character and diversity. However, care should be taken to ensure that enhancements do not conflict with their original design and layout.

In relation to energy crops, new structures should be located away from visually prominent locations, and close to existing settlement and infrastructure. Although the introduction of energy crops will be more difficult to manage, grant applications to Natural England or the Forestry Commission may require an assessment of landscape and visual impacts.

FORESTRY AND WOODLAND

Forces for Change

Woodland is a significant component of this landscape, particularly in the south western section of the Landscape Type , which lies within The National Forest, and new woodland planting would be generally appropriate, increasing the overall woodland coverage in the Region. However, any new woodland planting should be carefully sited as to avoid disrupting long-distance views and the sense of openness where it exists.

Shaping the Future Landscape

The aim should therefore be to plan for new woodlands, ensuring new planting schemes take full advantage of opportunities to enhance nature conservation and recreation, whilst respecting the pattern and scale of the landscape. Small to medium broadleaved woodlands are likely to be most appropriate, linked with existing semi-natural woodland by improvements to hedgerows and riparian habitats along streams and rivers. Such proposals should be undertaken in collaboration with the Forestry Commission and local landowners, and financial support may be available through the English Woodland Grant Scheme.

For those areas in the Wooded Village Farmlands that lie within The National Forest, design guidance for woodland creation should be in accordance with the National Forest Strategy, 2004-14 that has been consulted on and endorsed at the national level. Much of the area coincides with the 'Wooded Parkland' landscape type identified in The National Forest Strategy and which confirms that there is limited scope for large-scale planting. Here, the aim should be to establish small to medium sized mixed broadleaved woods that respect the historic landscape character, together with farm woods and estate forestry, with some commercial plantations away from the parkland settings.

TOURISM AND LEISURE

Forces for Change

Several large landscape parks and country houses are popular tourist attractions, along with The National Forest, Foremark and Staunton Harold reservoirs in Leicestershire, and numerous publicly accessible woodlands. Some of these sites experience considerable visitor pressure and many sites include infrastructure such as car parks, picnic spots, and viewpoints. This can result in the damage, loss and fragmentation of natural features, while visitor facilities can create visual intrusions and reduce the sense of tranquillity.

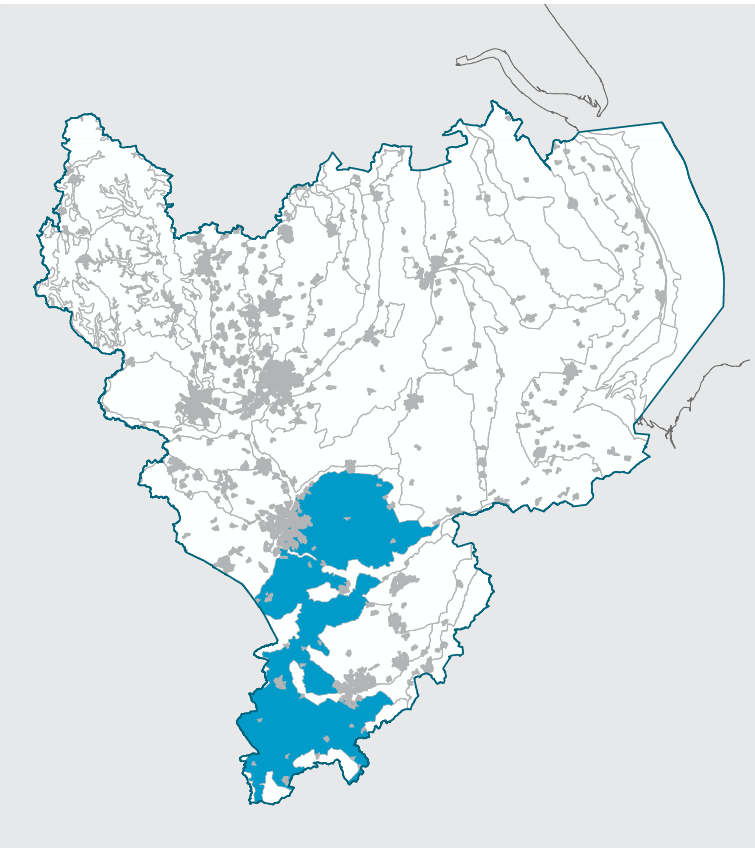
Shaping the Future Landscape

The aim should be to protect the distinctive character of the landscape and consider the visual and environmental impact of any new or extended visitor facilities. The management of public access should also be encouraged, helping to conserve the quiet, peaceful character of the area whilst enhancing the parks, houses, reservoirs and woodland as recreational and educational resources.

5C:

UNDULATING MIXED FARMLANDS

Undulating Mixed Farmlands
(© Ken Johnston, Natural England)



KEY CHARACTERISTICS

- Varied landform of broad rolling ridges, steep sided valleys, rounded hills and undulating lowlands;
- Well treed character arising from abundant hedgerow trees, copses and woodlands;
- Upland areas mark a major watershed in Middle England and are the source of major rivers;
- Mixed farming regime with mainly arable land uses on hills and ridges and in fertile lowlands; intact hedgerow networks generally associated with pastoral land uses;
- Sparse settlement patterns with limited modern development; widespread use of local limestone and ironstone in vernacular buildings and churches;
- Network of quiet country lanes linking rural communities;
- Remote, rural and sometimes empty character; and
- Frequent and prominent ridge and furrow and evidence of deserted or shrunken medieval settlements.

LANDSCAPE CHARACTER

The Undulating Mixed Farmlands Landscape Character Type forms an extensive landscape stretching from the Oxfordshire and Warwickshire borders, through Northamptonshire and into the heart of Leicestershire. Despite its scale, varied underlying geology and complex draining patterns that have created a landscape of hills, ridges and valleys, the landscape has a strong visual unity.

Of particular importance to creating this visual unity is the undulating nature of the landform, interspersed with relatively high hills and ridges, a mixed agricultural regime and areas of permanent pasture preserving widespread ridge and furrow, occasional woodlands and spinneys, and a network of well treed hedgerows. The dispersed pattern of villages and farms, and widespread use of the local ironstone rich geology in churches, vernacular buildings and country houses is also significant in contributing to local identity and sense of place.

The rural landscape retains a tranquil and sometimes empty character, particularly where there is limited influence from neighbouring villages and farms, and where winding country lanes and roads have seen little improvement. Landscape condition is generally good, notably where hedgerow networks are well maintained and contain frequent hedgerow trees. Wide areas also have a historic character, with only limited evidence of change and development from recent decades.

Leicester Wolds near Whissendine (© Martin Banham, Natural England)

PHYSICAL INFLUENCES

A complex series of geological formations underlies the Undulating Mixed Farmlands landscape, influencing localised patterns of landform, land cover and land use. Lias geology predominates, with Scunthorpe Mudstone, Charmouth Mudstone, Marlstone Rock Whitby Mudstone and Northampton Sand Formations being particularly widespread. At higher elevations, the ironstone-rich Jurassic Marlstone Rock Formation caps several hilltops which often create distinctive elevated ridges and hills generally above 200m AOD, such as Eydon Hill and Burrough Hill. A thick mantle of till is also evident across the landscape, notably in areas forming the catchment of the Tove and Sence and across all but the most elevated areas of High Leicestershire.

The geodiversity interest and potential of this landscape type is varied. Within the Scunthorpe Mudstone there are many thin beds of limestone many of which are distinct and can be found in ploughed fields. They have been locally used for building stone. In the ironstone areas of the Marlstone and Northampton Sand there are many former quarries preserved as RIGS and the stone is readily visible in local buildings. The varied topography offers potential for the conservation of geomorphological sites. In view of the range of geological and geomorphological features, it is important that practices are in place for their care, maintenance and management, and the promotion of their educational and interpretational interest.

Landform features are closely linked to the nature of the underlying geology. High, often steep sided scarps tend to be associated with ironstone bearing rocks, separating sometimes wide flat ridge tops and broad rounded hills. More gently undulating landform features are evident across lower elevations where the Whitby Mudstone forms the predominant bedrock. Wide areas are also cloaked in thick deposits of glacial till which further soften landform features. Many of the steep slopes capped by ironstone have been subjected to landslides with some showing evidence of recent movement but all having the potential for catastrophic movements, with or without man's interference.

The upland areas of the Undulating Mixed Farmlands mark a major watershed between many of Middle England's river systems. Indeed, the village of Bruntingthorpe, in Leicestershire, marks the point where tributaries of Thames, Nene, Welland, Great Ouse and Trent can all be identified in a small geographic area.

Slowly permeable and slightly acid loamy and clayey soils are predominant across the landscape, and despite great consistency in the nature of the soils, a mixed agricultural regime is evident; the distribution of arable and pasture largely dictated by variations in landform. On steeper slopes and wetter areas bordering streams and rivers, improved and semi-improved pastures are prevalent, with particularly steep slopes marked by remnant areas of woodland or unimproved species rich grassland. On gently undulating and sloping land, cereal cultivation is notable. Localised outcroppings of the Marlstone Rock and Northampton Sand Formations give rise to free draining acidic soils which are particularly well suited to arable farming. However, whilst arable cultivation is evident, steep sloping land has tended to lead to the retention of acid grassland, scrub and woodland.

The agricultural landscape is punctuated by numerous small deciduous woodlands and spinneys and whilst these are generally not extensive, they are often prominent features when occupying steep slopes or elevated hills and ridges. Several ancient woodlands are also notable, providing significant local wildlife interest in an otherwise agricultural landscape. The notable concentration of ancient woodlands that comprises Leighfield Forest marks the remnants of the medieval royal hunting area of the Forest of Rutland.

Hedgerows and hedgerow trees also contribute to the well treed character of the landscape. In areas of intensive arable production, hedgerows can be low and trees intermittent, particularly where they mark later periods of enclosure. However, elsewhere the hedge cover is generally very good, and contributes significantly to the perception of a well maintained agricultural landscape. Sinuous hedgerows marking ancient boundaries are particularly rich. Indeed, in a landscape with relatively low semi-natural vegetation cover, trees and hedgerows provide important refuges and connective habitats for wildlife.

Rolling landform with well treed character (© River Nene Regional Park/M Williams)

CULTURAL INFLUENCES

The thickly wooded uplands and intractable soils across the deposits of till would have been marginal to early agriculture, and settlement of the landscape would have gravitated towards the river valleys, particularly where the overburden had been eroded to expose freer draining gravels. Despite this, evidence of later prehistoric communities can be found across the more elevated hills; sites such as Borough Hill and Burrough Hill, both now country parks, are the sites of large hillforts, located to take advantage of their prominent locations with commanding views across wide areas.

The main evidence for early settlement and farming in the landscape is in the form of Saxon and Scandinavian place names. Their wide distribution suggests that the landscape was less densely settled than more fertile areas elsewhere in the vicinity during the late Saxon and early medieval periods, although as pressure on land increased, it appears that up to the mid 14th century wide areas were being cleared of woodland to establish new nucleated villages surrounded by open fields in ridge and furrow cultivation. It is also to this period

of settlement expansion and prosperity that many village churches date.

From the mid 14th century, the landscape saw widespread depopulation, largely as a result of the limited quality of the soils for cereal cultivation and the actions of landlords who could see greater profits in the reversion of land to grazing for vast flocks of sheep. Today, the landscape displays widespread evidence of this period, with deserted and shrunken villages located throughout the area and the ridges and furrows of former open fields preserved beneath areas of permanent pasture. In some cases villages were not entirely abandoned, but declined to leave just one or two farms where once there was a thriving community.

From the Tudor period, the landscape was also increasingly being enclosed, quick growing thorn hedges being used to demarcate boundaries and divide up the landscape. This continued until the widespread Parliamentary enclosure of the remaining open land in late 18th and early 19th centuries resulting in a complex patchwork pattern of fields overlying much older field systems.

The growing wealth of landowners, particularly from the Tudor period, led to further developments in the landscape. Churches were embellished and many villages saw the construction of substantial stone cottages, often utilising the distinctive iron-rich Northampton Sand and Marlstone geology.

Wealthy landowners also established grand residences and parks. Many had earlier origins as hunting enclosures for the nobility. However, others were created on newly enclosed lands and sometimes preserve the remains of abandoned villages and their open fields beneath areas of parkland such as at Baggrave and Lowesby.

Whilst several early houses remain largely intact, as at Ashby St. Ledgers and Canons Ashby, others such as Althorp House was substantially remodelled, mainly in the 18th century, to reflect the growing fortunes and taste of the owners. Again, as with vernacular cottages in the villages, stone was sourced locally, and as such these fine houses provide a tangible link to the underlying geological framework and have strong visual unity with their surroundings.

Although the industrial age saw the construction of canals and railways, the landscape was largely agricultural and there was only limited expansion of settlements or rebuilding in brick and tile. The 20th century saw relatively little change in the rural landscape although as with some other areas in the region, a decline in hedgerow networks and the consolidation of fields to form large parcels of land for intensive arable farming has had a notable effect. Some localised influences have also occurred as a result of modern infill and village edge development and major infrastructure, such as communications masts on more elevated hilltops.

Leicestershire near Uppingham (© Martin Banham, Natural England)

AESTHETIC AND PERCEPTUAL QUALITIES

There is considerable variety across the Undulating Mixed Farmlands landscape. Exposed and elevated areas provide wide sweeping panoramas across neighbouring lowlands, with nearby hills and ridges punctuating the skyline. Elsewhere, and notably along valleys or below steep scarp slopes, the landform obscures middle and long distance views to create a more intimate and enclosed landscape. Despite these contrasting visual characteristics, the landscape has a strong visual unity, largely arising from the mixed agricultural regime, widespread ridge and furrow and generally well maintained hedgerow networks. Whilst areas of woodland are limited, the landscape also has a well treed character, which further contributes to it being perceived as being in generally good condition.

Where hedgerow patterns have seen little fragmentation and local villages have seen limited late 20th century growth and development, the landscape retains a strong historic character, with tangible evidence of land use and settlement stretching back into the medieval period. Of particular significance are the quiet winding rural lanes between long established villages, hummocky landform associated with ridge and furrow farming and other medieval features such as deserted or shrunken villages and manorial complexes preserved beneath areas of permanent pasture.

Vernacular architecture, particularly where the locally sourced Marlstone and Northampton Sand Formations have been used, also provides visual unity in the landscape. This is further enhanced by older churches and large country houses which also display the use of these ironstones with their distinctive warm brown colour.

The landscape has a strong agricultural character. Despite widespread settlement, and the local influence of large towns such as Daventry and major transport infrastructure routes, large areas possess an empty and tranquil character.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

The Undulating Mixed Farmlands have seen limited late 20th century growth and development and many areas remain remote and rural. However, modern mixed-use development is evident on the fringes of larger settlements such as Leicester, Northampton and Daventry and in and around those villages closest to the main towns. This creates visual intrusion and extends the urban fringe. Further expansion of Northampton and Daventry can be anticipated as these lie within the MKSM Growth Area. Similarly, Leicester forms part of the 6Cs Growth Point although at present, the main directions of growth are proposed to the north and west of Leicester, and outside of the Undulating Mixed Farmlands. These areas are likely to experience considerable development pressure and high levels of growth with mixed use development on the fringes of the urban areas.

Shaping the Future Landscape

The aim should be to protect the character of the countryside and consider the visual impact of any new development included areas of large scale mixed use development associated with the identified Growth Areas. Specific mechanisms include best practice innovative architectural design and planning solutions, and planting of new trees and woodland, helping to integrate new development into the landscape. Care should also be taken to prevent coalescence, ensuring separation is maintained between the urban fringe and surrounding settlements. The findings and guidance of Landscape Character and Historic Landscape Assessments will together provide tools to inform the development of major urban extensions around the main settlements of Northampton, Daventry and Leicester.

Many villages would benefit from Village Design Statements, guiding the design and scale of new development, and ensuring it is appropriate to the existing vernacular styles and building materials. As well as Village and Town Design Statements, Conservation Area Appraisals can also be important tools. There should also be a place for the use of innovative architectural solutions that utilise eco-friendly and high quality design.

INFRASTRUCTURE

Forces for Change

Localised road improvements are evident in the road network in order to better connect isolated villages with larger towns and cities. This has an urbanising effect and brings a degree of standardisation to the landscape.

The aim should be to manage road improvements, maintaining the existing character of the rural road network, whilst having regard to user and safety requirements. Any road improvements should be carefully planned and designed to provide positive environmental and landscape enhancements and strengthen prevailing character. This may include grassland, hedgerows and trees along road verges to enhance character and increase the occurrence of semi-natural habitats.

ENERGY PROVISION

Forces for Change

Although not currently characteristic of the Undulating Mixed Farmland Landscape Character Type, the more elevated areas face pressure for wind farm development, including the potential for cumulative impacts. Such development can create prominent landmarks and reduce the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be to protect the character of the landscape by appropriately siting and designing new wind farm installations, and also considering any potential cumulative effects. There is potential for strategic regional and sub regional level guidance on commercial wind energy schemes, informed by the EMRLCA and other studies. In addition, planning guidance should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out the criteria against which new applications will be assessed.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

While the rural landscape retains a mixed land-use, with areas of pasture and arable, there is evidence of agricultural intensification, resulting in the loss or damage of many typical landscape features. This includes loss of hedgerows and hedgerow trees and damage to areas of ridge and furrow. There is also a proliferation of new large scale agricultural buildings, reflecting the loss of smallholdings and the general increase in farm size.

Leicestershire near Twyford (© Martin Banham, Natural England)

Shaping the Future Landscape

The aim should be to protect the structure and unity of the landscape and consider the impact of any new structures and changes to farming practices. New large scale agricultural buildings should be carefully sited, away from visually prominent locations and amongst existing buildings where possible. Specific design guidance for farmsteads may be appropriate, establishing the criteria for new development. Consideration should also be given to the management of those features lost or under threat. In particular the restoration of hedgerows should be given priority, creating a stronger pattern of land use and reinforcing the well-treed character.

FORESTRY AND WOODLAND

Forces for Change

Woodland cover and type varies dramatically across the landscape, with generally more woodland within upland areas, and a range of broadleaved, conifer and mixed plantations. New woodland planting should therefore be considered at a county level, reflecting local variations. However, opportunities exist to use new tree planting and small-scale woodland as screening of new residential and agricultural development and to link existing woodlands.

Shaping the Future Landscape

The aim should therefore be to manage existing trees and woodland, including the protection of ancient semi natural woodlands including measures to reduce their fragmentation. In addition new tree planting should be encouraged to ensure a varied age structure and creation of woodland edge habitats to enhance their landscape and biodiversity character.

GROUP 6:

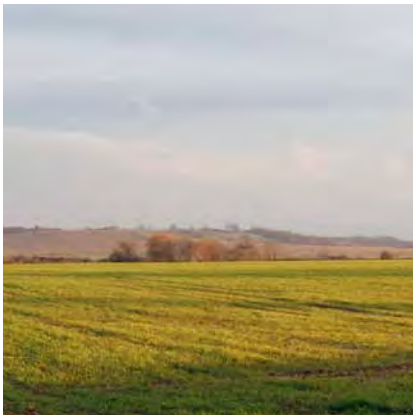
LIMESTONE FARMLANDS

GROUP 6
PAGES 175-208

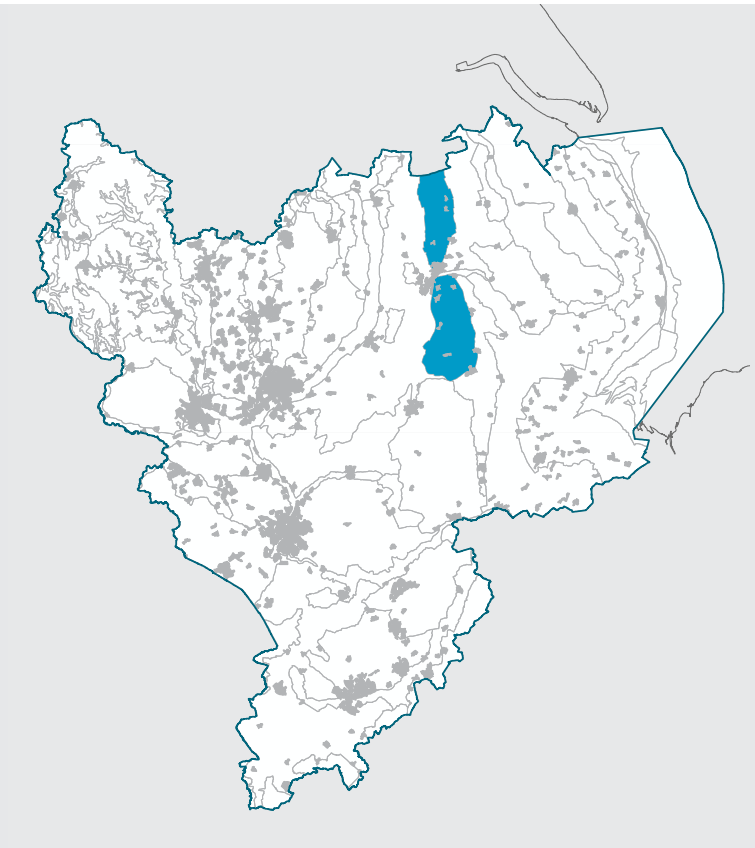
Upland Limestone Pastures, Derbyshire (© Derbyshire County Council)

6A:

LIMESTONE SCARPS AND DIPSLOPES



Escarpment forms backdrop to the Unwooded Vales (© LDA Design LLP)



KEY CHARACTERISTICS

- Limestone escarpment and dip-slope with strong north south alignment;
- Diverse patterns of land use and regular spring line settlements along scarp in contrast to the more open and exposed dip slope;
- Limestone villages retain strong historic character, and provide strong link to the nature of the underlying geology;
- Ermine Street forms a significant feature of the landscape, and continues to dictate landscape patterns and boundaries;
- Place names and some indicator species are reminders of once widespread heathland; and
- Evidence of declining landscape condition across intensively farmed areas.

LANDSCAPE CHARACTER

The Limestone Scarps and Dipslopes Landscape Character Type is part of the Jurassic limestone belt that runs from Dorset to the Humber. It is reminiscent of the Cotswolds, both in its physical structure, large scale arable land uses and the character of many of the stone built villages along the lower scarp slopes. However, in contrast to elsewhere with areas of similar geology, locally occurring heathland on thinning limestone created a unique character up until agricultural improvement in the 19th century.

The escarpment, known locally as the Lincolnshire Edge or Cliff, rises above the Trent Vale and forms a prominent and distinctive landscape feature and backdrop to views eastwards from the neighbouring vale.

To the east of the scarp extends a gently undulating and tilted limestone dip slope that merges with the adjacent fenland and marshland fringes of eastern Lincolnshire. It is thought that the landscape has remained largely devoid of trees since the prehistoric period. Whilst it is assumed that the landscape was farmed from at least the Neolithic, place names and occasional indicator species provide clues to the marginal and heathy character of the landscape prior to agricultural improvement.

The consistent alignment of the edge has created a strong sense of linearity, further emphasised by ancient transportation routes. Ermine Street was created in Roman times to link London to York and possibly consolidated much more ancient trackways running along the top of the edge. Superimposed on the north south axis of the Roman road is a less dominant but nonetheless distinctive pattern of east west routes and field boundaries that adds to the geometric character of the dip slope landscape.

Despite evidence of long established settlement and exploitation, the dip slope retains a modern and sometimes declining character, largely as a result of intensive arable production and poor boundary maintenance. However, the edge and scarp villages continue to retain a more intricate and intact historic character.

PHYSICAL INFLUENCES

The Limestone Scarps and Dipslopes are predominantly formed of Middle Jurassic Lincolnshire Limestone, and are part of the belt of ooidal limestones that runs from the Humber Estuary to the Dorset coast. Indeed, the scarp and dipslope are reminiscent of a diminutive Cotswolds, where a prominent scarp overlooking the Severn Vale provides the face of the tilted limestone massif. The morphology of the scarp and dip slope is a consequence of the regional dip of the Jurassic strata, with the steep west facing slopes forming a prominent face and exposure of the Lower Jurassic geology. These strata tilt eastwards where they are overlain by younger rocks from the Jurassic period.

The scarp forms a distinctive topographic feature. It is very pronounced in some places such as Normanton-on-Cliffe, where it rises up to 70m above the adjacent lowland vales. However, elsewhere, such as at Grayingham, it is much softer. Despite this, the straightness and sharpness of the edge makes up for its lack of height.

The lower section of the scarp slope is formed by the mudstones of the Lias Group. Water percolating through the permeable limestone rocks above issues as springs at the point where it meets the impermeable rocks towards the base of the scarp. These springs have been the focus of settlement along the edge, and villages can be seen regularly spaced out along the escarpment. These springs form major streams as they flow through the neighbouring vale but are of only limited significance at the very edge of the scarp landscape.

Behind the scarp face, the Middle Jurassic limestone dip slope shelves gently eastwards across even gradients. Erosion has removed the later Jurassic deposits across the majority of the dip slope; however, they can still be found along the lower eastern fringes and across the neighbouring marsh and fen fringe farmlands. In some areas the limestone is locally thin and inliers of the underlying sands and clays occur.

The effects of glaciation and periglaciation and the distribution and types of superficial deposits has also shaped the landscape and influenced the morphology of local landforms and soil types.

In some places on the dip slope, the water table is close to the surface, resulting in several streams emerging close to the top of the scarp and flowing eastwards. These streams are relatively insubstantial, and occupy gentle folds in the underlying landscape. As with the springs at the foot of the scarp, watercourses emerging on the dip slope have been the focus of settlement, and villages can be seen at regular intervals on the margins of the adjacent fenland fringes. Dry valleys are also evident and are indicative of the porous nature of the underlying geology.

There are many active and former quarries in the Lincolnshire Limestone that show a varied stratigraphy so there is a good potential for geodiversity interest as well as geomorphological features. The Lincolnshire Limestone has been used extensively as a building stone and this is reflected in the local vernacular of the characteristic limestone villages. In view of the range of geological and geomorphological features, it is important that practices are in place for their care, maintenance and management, and the promotion of their educational and interpretational interest.

Limestone Scarp and Dipslope (© Carol Paterson, Natural England)

The underlying geology gives rise to shallow lime rich soils across the gently undulating dip slope, giving way to loamy soils with impeded drainage on and below the steep scarp. Where superficial deposits occur these can affect the soil types, for example where till overlies the limestone bedrock resulting in a change from predominantly alkali to acid soils. The differences in soils and landform have a significant influence on land cover. The steeper scarp slopes are predominantly pastoral with intermittent woodlands while intensive arable farming dominates the dip slope. Where the scarp is particularly gentle, arable fields can be observed to roll over the crest of the edge and down into the adjacent vale.

Intensive agricultural land uses have diminished the extent of semi-natural habitat across the landscape, although some small remnant species-rich grasslands and woodlands are locally significant, particularly when associated with parklands. The low and generally poor quality of hedgerows further diminishes the wildlife interest of the farmland areas.

Despite the underlying limestone geology, frequent place names refer to heathland, which is characterised by acid loving species. Historic accounts of the area also appear to identify the dipslope landscape as heath up until agricultural improvement in the 19th century. It is possible that the localised thinning of the limestone geology created conditions favourable for gorse and bracken to thrive; however , evidence of this is now sparse.

CULTURAL INFLUENCES

The elevated, dry land of the Limestone Scarps and Dipslopes would have been attractive to early settlers, and it is suggested that the ridge would have been cleared of woodlands in the early Neolithic. The elevated linear nature of the scarp would also have been valued as an overland route through neighbouring marshy and densely wooded lowlands located to the east and west.

Despite some evidence of prehistoric activity, it is from the Roman period that the main evidence of early settlement can be found in the form of communication routes and archaeological sites, which include a marching camp at Sudbrook near Ancaster. It is assumed that the environs of the road along the ridge top would have been maintained clear of trees allowing wide visibility, and as such it is likely that the ridge would have been open and probably farmed throughout the Roman period. Remnants of a villa site at Scampton and Roman settlement near Owmby, north of Lincoln may support this theory.

The main Roman road is Ermine Street, a major route linking London to York and whilst its metalled and straight course was created by engineers, it is not unreasonable to assume that it consolidated much older prehistoric trackways and routes along the top of the ridge.

The course of Ermine Street remained an important feature of the landscape throughout history. Parish boundaries, probably established in the mid to late Saxon period, are in part defined by the road and it also delineates the axis along which large arable fields are arranged. Its course continues to be an important route, and is preserved as modern roads and tracks.

Limestone Scarp and Dipslope (© Carol Paterson, Natural England)

Place name evidence suggests that today's villages are of Scandinavian or Saxon origin. Interestingly, few names provide evidence of them being established as clearings in woodland, further supporting the view that the landscape was cleared of woodland and managed as farmland for some considerable time prior to Saxon settlements being established.

The arrangement of villages and parish boundaries provide some clues as to past land use and land cover. Villages tend to be located at the edges of the landscape, either on the spring line at the base of the scarp or on the fringes of the dip slope. They are each set within elongated parishes stretching out into the surrounding lowlands and up onto the higher land of the dip slope, taking advantage of wetter land for pasturing and elevated areas for arable crops. The drier soils on the upper slopes of the ridge would have been open fields, giving way to areas of common heath, and indeed many villages can be identified as having a corresponding heath with Ermine Street forming a common axis.

The marginal nature of the soils prior to improvement from the Victorian period would have limited their productivity, and indeed, several deserted mediaeval villages may be reflective of a decline associated with the limited capacity of the land to sustain viable populations.

Enclosure and improvement from the 19th century created the existing patterns of large geometric fields interspersed with isolated farms. Ermine Street continued to form an important axis on the arrangement of enclosure fields laid out in the period, although it is possible that some modern boundaries preserve much earlier land divisions, perhaps dating back to the Roman period. South of Lincoln, several farms, houses and granges are named 'Heath' and other features names contain the term 'ling' (heather) and 'gorse' both of which are typical heathland species, and provide evidence of the heathy nature of land in which these farms and fields were established.

The rural landscape has remained largely intact since this time, with an emphasis on cereals and root crop cultivation within large geometric fields, bounded by stone walls and gappy hedgerows. Some decline is evident in the condition of field boundaries, and where older boundaries are particularly poor, post and wire fencing is conspicuous.

The dry, load bearing character of the geology and the shallow gradients made the landscape ideal for the development of wartime airfields, and several can be seen across the dip slope landscape.

AESTHETIC AND PERCEPTUAL QUALITIES

Despite its relatively low elevation, the Limestone Scarps and Dipslopes is a distinctive and locally prominent landscape, forming both a backdrop to views from the adjacent lowlands and an elevated vantage point with wide panoramas across vast areas.

The visual character of the landscape varies considerably dependent on location. The scarp has a diverse character, with pasture, arable, woodland and hedgerows creating an intricate and textured landscape. The straightness of the edge, transport routes and regularity of scarp edge villages also imbues a subtle regimented character, which is further reinforced by the geometric patterns of fields.
The strong geometry of the landscape continues onto the dip slope. However, declining field boundaries often make these patterns difficult to discern. As a further contrast to the scarp slopes, the dip slope has an open and empty character. Wide views across vast treeless fields emphasises the sense of remoteness, although this becomes diminished with proximity to transport infrastructure and the occasional farms, villages and airfields.

Despite the landscape being long settled, the landscape of the dip slope has retained a relatively modern character, largely as a result of the geometric nature of field boundaries and intensive character of farming. By contrast the pastoral and wooded scarp, interspersed with small stone built villages, retains a more tangible connection to historic character. Whilst landscape condition across the scarp is generally good, the declining hedgerow and stone boundaries across the dip slope, impart a declining character.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Villages are under increasing pressure from development, damaging the character and pattern of settlement. The expansion of ridgeline villages is particularly harmful due to their visually prominent locations. The impact of the new development on the setting and views of Lincoln Cathedral and village churches is particularly important, as these are distinctive regional/local landmarks. There is also evidence of mixed-use development on the fringes of Lincoln, creating visual intrusion and resulting in the loss of surrounding landscape features.

Shaping the Future Landscape

The aim should be to protect the character of the countryside and consider the visual impact of any new development. Specific mechanisms include planting of new trees, helping to integrate new development into the landscape and the use of best practice innovative architectural solutions and planning solutions that take inspiration from local distinctiveness and character whilst utilising eco-friendly and high quality design. Many villages would benefit from Village Design Statements, guiding the design and scale of new development, ensuring it is sensitive to the existing vernacular styles and building materials. As well as Village and Town Design Statements, Conservation Area Appraisals can also be important tools.

The aim should also be to protect key views and vistas, ensuring view lines are maintained. The expansion of villages on the crests of ridges should be avoided, and in the case of views towards Lincoln Cathedral, height restrictions for surrounding development may be necessary. The preservation of green wedges is also an important mechanism for protecting the setting of uphill Lincoln, including the Cathedral.

INFRASTRUCTURE

Forces for Change

Roman roads and the network of enclosure roads are distinctive landscape features of the Limestone Scarps and Dipslopes; however, these are under threat from lack of management and inappropriate planting.

Airfields are also a feature of the Limestone Scarps and Dipslopes. Those that are no longer operational are a potential threat to the tranquillity of the landscape, at risk of either falling into disrepair or being redeveloped.

Although not currently characteristic of this landscape, the Limestone Scarps and Dipslopes are under threat from telecommunications infrastructure, creating prominent visual features in this predominantly open landscape and reducing the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be to manage the historic road network, ensuring its continued contribution to biodiversity and landscape character. The course of Ermine Street in particular should be maintained as an important asset, ensuring a continuous recreation and habitat corridor, even where the current road deviates from the original alignment.

The aim should also be to manage redundant airfields, ensuring any new built development follows the footprint of existing structures as closely as possible, limiting visual intrusion and the loss of surrounding landscape features. Original features of the airfields should be retained, providing a link with the wartime past and a focal point for new settlement. For abandoned airfields, woodland planting, grassland and the removal of ancillary buildings should be considered.

The aim should be to protect the character of the landscape by siting infrastructure away from visually prominent locations and ensuring installations are of an appropriate size and scale. Increased sharing of masts and sites between operators should also be considered, along with removal of redundant masts.

ENERGY PROVISION

Forces for Change

Although not currently characteristic of this landscape, the Limestone Scarps and Dipslopes is likely to experience pressure to accommodate wind energy schemes due to the strength of the winds across the more elevated and open dip slope. As with telecommunication equipment, such infrastructure can create visual landmarks and reduce the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be to protect the character of the landscape by appropriately siting and designing new wind energy installations. There is potential for strategic regional and sub regional level guidance on commercial wind energy schemes, including cumulative impact, informed by the EMRLCA and other studies. In addition, planning guidance should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out the criteria against which new applications will be assessed.

MINERALS AND WASTE

Forces for Change

There are a number of quarries within this landscape, serving local and national demand for limestone. There are many impacts associated with quarrying, including visual intrusion, loss of tranquillity and adverse effects on heritage features and wildlife habitats. The high demand for aggregates, and therefore pressure for new and expanded quarries, is likely to further damage the landscape.

Shaping the Future Landscape

The aims should be to manage quarrying, ensuring activity is located away from visually prominent or sensitive locations. Planning guidance for the siting and design of quarries should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out proposals for after-use; quarries can provide valuable landscape, geodiversity, biodiversity and recreation benefits.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

The landscape is under increasing pressure from intensification of arable cultivation. This has resulted in field enlargement, removing field boundaries and creating a more open landscape. This is particularly evident on the dip slopes, where there is little existing enclosure. Intensification has also led to decline of ridge and furrow, limestone grassland and earthworks of deserted settlements, all of which are vulnerable to agricultural improvement.

Shaping the Future Landscape

The aim should be to protect existing landscape features, whilst encouraging positive management of those features lost or under threat. The restoration of hedgerows and stone walls should be given priority, creating a stronger field pattern and helping to integrate new development into the landscape. The priority should also be to protect the mosaic and diversity of land use, seeking opportunities to restore grassland and areas of pasture.

FORESTRY AND WOODLAND

Forces for Change

Woodland along the scarp is a significant landscape feature, defining the ridgeline and helping to contain settlement. However, existing woodlands are often small and isolated, and suffer from a lack of management.

Shaping the Future Landscape

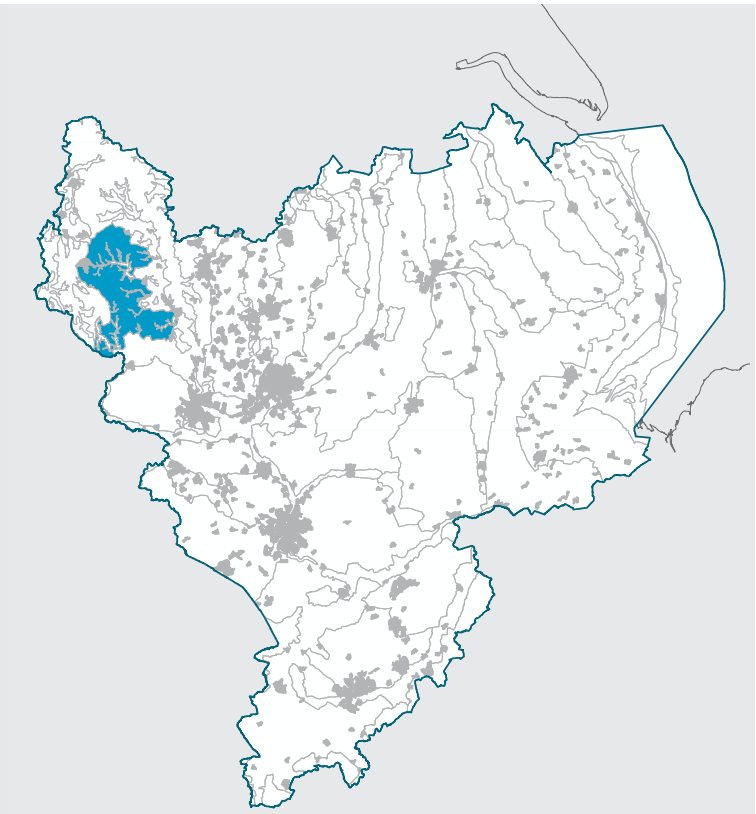
The aim should be to plan for new woodlands, ensuring new planting schemes take full advantage of opportunities to enhance the scarp slope, integrate new development into the landscape, and contain future growth. The aim should also be to manage existing trees and woodland, encouraging new planting to ensure a varied structure, whilst removing invasive species.

The planning and management of new woodland should be undertaken in collaboration with the Forestry Commission and local landowners, and financial support may be available through the English Woodland Grant Scheme. Consideration should also be given to the relationship between Limestone Scarps and Dipslopes and Unwooded Vales, ensuring new planting does not negatively impact on the open character of the adjoining Landscape Character Type.

6B:

UPLAND LIMESTONE PASTURES

Stone walls define field boundaries
(© Derbyshire County Council)



KEY CHARACTERISTICS

- Elevated, gently undulating limestone plateau with occasional rock outcrops, screes and caves;
- Significant deposits of minerals in veins within the limestone bedrock;
- Simple landform structure dissected by steep sided dales and gorges;
- Long, narrow shelterbelts of broadleaved trees on high ground;
- Nucleated villages of limestone cottages connected by hill top and valley roads;
- Improved verdant pastures grazed by cattle interspersed with occasional dew ponds contrast with localised rough grassland and heathy scrub on upland peat;
- Distinctive field patterns, generally defined by dry stone walls reflecting underlying geology and tangible evidence of a long history of settlement and farming;
- Widespread evidence of Neolithic and Bronze Age ritual activity in the form of visually prominent monuments; and
- Open landscape, with views framed by hills or rising ground.

LANDSCAPE CHARACTER

The Upland Limestone Pastures Landscape Character Type is simple yet distinctive, with a strong sense of place and unity of character. This is largely derived from the widespread outcropping of Carboniferous limestone and its consistent use in dry stone walls and buildings. Local variations in land cover, landform, underlying geology, and patterns of settlement and land use can be observed. However, the networks of dry stone walls appear to bind the disparate parts of the landscape together to create a visually unified whole, especially when viewed as part of a vast panorama from elevated hillsides.

The rural landscape is largely pastoral, with verdant pastures on deeper loess soils contrasting with rough species rich grasslands and rock outcrops on thinner soils and heath and scrub on upland peat. There is limited woodland cover, and indeed it is possible that the landscape has remained cleared of woodland for a significant period of time.

The landscape has a strong historic character, displaying tangible evidence of settlement and farming from the prehistoric period. Particularly evocative are the hill top monuments of the Neolithic and Bronze Age, notably the Arbor Low henge. However, field boundaries are also significant, displaying changing patterns of enclosure and farming over several thousand years including the most recent and widespread organisation of the landscape in the 19th and 20th centuries. The use of the local limestone has ensured that such features and boundaries have survived millennia of change and development and continue to exert a significant influence on the character of the landscape.

Despite the sparse settlement pattern and productive agricultural landscape creating a deeply rural and remote character, evidence of widespread mining activity is evocative of a more industrial past. Whilst the majority of rakes and other mines have been closed and reclaimed by nature, large scale limestone quarries remain in the landscape and continue to exert a strong influence on their locale.

PHYSICAL INFLUENCES

Several major types of Carboniferous limestone can be observed across the Upland Limestone Pastures, their varying properties having an influence on local landform and visual character. Plateau areas tend to occur over the thickly bedded pale grey 'shelf' limestone, giving way to the darker grey 'basin' limestone and reef limestone which is unbedded and rich in fossils. Hard fine-grained limestone which is more resistant to weathering is also evident as conical hills known as reef knolls, such as those at Wetton Hill and Thorpe Cloud. Unlike the broader gently undulating hills elsewhere, the reef knolls tend to rise steeply from the surrounding landform forming prominent and distinctive landscape features. Glaciation and periglaciation has also had a major effect on shaping the landscape and the landform and features that are evident today are testimony to these geomorphological processes.

Upland Limestone Pastures, Dam Dale White Peak
(© Jim Horsfall, Natural England)

Dolomitized limestones are also evident, creating tors, such as Rainster Rocks and Harboro Rocks. Volcanic rocks, known locally as Toadstones are also common. These tend to be interbedded within the limestone, and are often associated with spring lines.

The movement of mineralizing fluids, probably at the end of the Carboniferous period, has left significant deposits of lead, copper and zinc ores, as well as fluorspar, calcite and barites as veins within the limestone geology. These have been extensively worked and have been an important part of the local economy. Traces of mineral workings are located throughout the landscape in the form of old mines, linear rakes and spoil heaps.

The landscape type has a high potential for geodiversity interest with many resources, such as working and disused quarries, natural exposures, caves, relics of former lead mining and well represented geomorphological processes. In view of the range of geodiversity and geomorphological features, it is important that practices are in place for their care, maintenance and management, and the promotion of their educational and interpretational interest.

As is typical of limestone geology, the landscape is generally devoid of permanent watercourses. Many dry valleys are evident, as are other classic features of limestone geology, including pot holes, caves and caverns, created as the soluble limestone has become eroded by water percolating through it. Mirroring the variations in geology, various soil types are evident across the landscape. Plateau soils tend to be well drained, fine silty brown earths over wind blown drift. Loess was deposited across the plateau by icy winds during the final phase of the last Ice Age and has given rise to relatively deep fertile soils which have been the focus of settlement and farming, particularly when located close to springs or other sources of water. On the most elevated areas, where high annual rainfall is common, leaching has occurred and soils are acidic and often peaty. Where the drift thins on steep slopes and hill crests, patches of poorer or stony soils and rocky outcrops are evident. Where pastures have been abandoned, gorse and bracken scrub is evident. Whilst the improved pastures are generally of low habitat value, the unimproved marginal grasslands and heaths are often important for the various habitats they support.

Local variations in soils and land form have a significant influence on land use. Where deeper soils are found, improved pastures grazed by cattle predominate, interspersed with occasional arable fields. On thinner soils, hay meadows and unimproved pastures and calcareous grasslands can be observed, with rough grazing and regenerating scrub evident on some particularly steep hillsides and crests. Vestiges of species rich grassland can also be found along road verges.

Above 350m, the cooler climate favours the development of peaty soils and ironpans. Here, the leached soils give rise to acid grasslands. Limestone heaths are also locally significant. Elsewhere, lead mines, with their toxic spoil heaps, attract many specialist plants that are able to tolerate the heavy metals and further contribute to local nature conservation interest.

Woodland cover is restricted to small groups of trees and occasional coverts and linear shelter belts plantations of sycamore, beech and ash, often planted on former rakes and close to farms. Where present, the plantation woodlands, often consisting of few species, and have a very strong visual character in the open, upland landscape. The uplands and steep slopes, with their thin soils, are particularly open, further adding to their exposed and windswept character. In the generally open landscape, occasional trees along field margins and close to villages and farmsteads gain visual significance.

CULTURAL INFLUENCES

The upland limestone landscape has been the focus of settlement for a significant time, displaying evidence of activity as far back the lower Palaeolithic. It has long been supposed that the river valleys may have been the main areas of activity; however, some find spots on the high, dry plateaux indicate forays were made out onto the hills, perhaps in pursuit of migratory herds.

The most conspicuous evidence for prehistoric activity is the numerous ritual monuments of the Neolithic and Bronze Age that can be seen across the landscape. Little is known about why sites such as Arbor Low and Minninglow chambered tomb were constructed. However, their location on prominent crests and hills suggests that they functioned partly as territorial markers, perhaps using the visible presence of ancestors to mark the limits of land associated with small farming communities located along nearby valleys. The frequency and visual prominence of ritual sites suggests that they were located in a largely open landscape, and that the native woodlands of the plateau were cleared over several generations with stone and then bronze tools. Stones were also cleared from fields, and mounds associated with clearance can still be found.

Upland Limestone Pastures, Eyam-Foolow
(© Paul Clarke, Natural England)

Evidence in the form of enclosures and building platforms across the landscape suggests that large areas of the plateau remained open in the Iron Age and Roman periods. Indeed, it is thought that some stone walls on the plateau mark the location of prehistoric field boundaries.

Whilst some settlements may have much older origins, the modern pattern of permanent settlements was established in the Saxon period. As with lower lying areas, the pattern of nucleated villages, surrounded by open fields and common grazing was developed. Villages tend to be linear, often being located along dry valleys, and small, perhaps reflecting the historically marginal nature of the land and water supply difficulties. Isolated farms were also established, often as monastic granges. These can often be identified by place names, such as at Meadow Place Grange, and by the occurrence of sub rectangular field enclosures. Place names ending in moor, heath and common are also helpful in identifying the vast areas that were common grazing and marginal to settlement up until enclosure and improvement.

In the later medieval period, the open fields and commons gradually became enclosed by drystone walls. In early times, boundaries were set up around strips within the common fields, and can be seen today as long, thin and sometimes sinuous enclosures close to villages. Elsewhere and notably across the former commons and heaths, the enclosures are later. Here, surveyors planned the enclosure of vast tracts of land into geometric fields. Again, the abundance of local stone meant that thorn hedges were rarely used, and as such the various episodes of enclosure are preserved in lengths of dry stone wall. However, the use of quarried stone rather than rubble, often gives these later boundaries a neater appearance.

The enclosure of the heaths and commons in the late 18th and early 19th centuries allowed for these areas to be improved and brought into production. New farms were established, and field barns constructed, often close to new enclosure roads across the uplands. The period also saw the construction of associated features such as dew ponds which gave cattle access to water in the dry landscape. Field kilns allowed for the local production of lime to spread on the fields, initially to burn off rank vegetation and later to counteract the natural acidity of the peaty soils.

The rural landscape of the Upland Limestone Pastures has also been the focus of intensive industrial activity. Naturally occurring minerals within the limestone have been worked from at least the Roman period. Between 1650 and 1850 activity was significant and widespread. Whilst much of the mining activity has now ceased, the landscape is marked by distinctive rakes, pits, shafts and spoil heaps. Most have been naturalised by the growth of vegetation, leaving little visible in the landscape but some sites are significant, particularly when associated with standing structures such as engine houses. Several villages and towns such as Winster saw rapid growth associated with the influx of mine workers and their families.

Quarrying for limestone has also had a significant influence on the character of the landscape. Small delves and pits were worked for centuries for lime production or building stone. Following the arrival of the Peak Forest Tramway in 1796 mining activity was commercialised. Recent times have seen significant quarrying activity, notably for roadstone and cement, resulting in some of the largest quarry sites in Europe.

AESTHETIC AND PERCEPTUAL QUALITIES

The unifying influence of the underlying geology and recurrent visual themes such as the high open plateau and verdant pastures creates a strong landscape character and sense of place. This is further reinforced by built features such as stone cairns, prehistoric monuments, village cottages, farm buildings and dry stone walls which are constructed from the local limestone. Walls are also particularly important in binding disparate parts of the landscape together and emphasising the rolling nature of the landscape.

Large areas of the upland plateau retain a strong sense of remoteness and tranquillity. The absence of woodlands allows vast, sweeping panoramas and a somewhat windswept quality. The landscape also possesses a strong and tangible sense of history.

Winnats Pass (© Paul Clarke, Natural England)

Whilst 18th and 19th century enclosure patterns, farm buildings and remnants of mineral workings are the dominant characteristic of the historic landscape, the sinuous boundaries of medieval strip enclosures and prehistoric monuments add significantly to the sense of time depth. Again, the consistent use of the local limestone in creating physical structures has meant that, in contrast to other Landscape Character Types in the region, widespread evidence of occupation, religion and farming has survived as above ground features.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

There is little potential for large scale built development, but incremental infill with residential development is affecting the pattern and character of rural settlements. Development on village margins can be particularly damaging, creating visual intrusion and resulting in the loss of surrounding landscape features. There is also an increase in conversion of traditional agricultural buildings into housing, further damaging architectural and historic character.

Shaping the Future Landscape

The aim should be to protect the distinctive character of the landscape and nucleated settlement pattern, ensuring development is appropriate in terms of design and scale. Best practice innovative architectural and planning solutions that take inspiration from local distinctiveness and character whilst utilising eco-friendly and high quality design should be encouraged and new tree planting should be employed to minimise impact on local character and help integrate new development into the landscape. In settlements that are experiencing considerable development pressure, Village and Town Design Statements may be appropriate, ensuring appropriate use of vernacular styles and building materials. As well as Village and Town Design Statements, Conservation Area Appraisals can also be important tools.

INFRASTRUCTURE

Forces for Change

Although not currently characteristic of this landscape, the Upland Limestone Pastures is under threat from telecommunication infrastructure, creating visual landmarks in this predominantly open landscape and reducing the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be to protect the character of the landscape by siting infrastructure away from visually prominent locations and ensuring installations are of an appropriate size and scale. Increased sharing of masts and sites between operators should also be considered, along with removal of redundant masts.

Upland Limestone Pastures, Great Rocks Dale & Chee Dale (White Peak) (© Phil Sturges, Natural England)

ENERGY PROVISION

Forces for Change

Although not currently characteristic of this landscape, given the Government's commitment to renewable energy provision, the Upland Limestone Pastures is likely to experience pressure for wind energy schemes due to the strength of prevailing winds across these elevated plateaux. As with telecommunication equipment, such infrastructure can create visual landmarks and reduce the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be protect the character of the landscape by ensuring that any new wind energy installations are appropriately sited and designed, and that they are of a scale that protects the character of the landscape and its cultural heritage. There is potential for strategic regional and sub regional level guidance on commercial wind energy schemes, including cumulative impact, informed by the EMRLCA and other studies. In addition, planning guidance should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out the criteria against which new applications will be assessed.

MINERALS AND WASTE

Forces for Change

There are a number of large quarries within this landscape, serving local and national demand for limestone. In addition, the landscape type has a strong historic legacy for metalliferous mining, notably for lead, copper, fluorspar and barites. There are many impacts associated with quarrying, including visual intrusion, loss of tranquillity and adverse effects on heritage features and wildlife habitats. The high demand for aggregates, and therefore pressure for new and expanded quarries, is likely to further damage the landscape.

Shaping the Future Landscape

The aims should be to manage quarrying, ensuring activity is located away from visually prominent or sensitive locations including the Peak District National Park. Planning guidance for the siting and design of quarries should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out proposals for after-use; quarries can provide valuable landscape, geodiversity, biodiversity and recreation benefits and the historic legacy of old metalliferous mines has potential for geotourism.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

The Upland Limestone Pastures is a largely pastoral landscape, with occasional areas of species rich grassland. However, agricultural intensification has resulted in the loss of semi-natural habitat. Furthermore, while there has not been widespread loss of stone wall field boundaries, they are generally less well maintained, especially where grazing has ceased. This weakens the pattern of land-use and contributes to a more homogenous landscape.

Shaping the Future Landscape

The aim should be to protect existing landscape features, whilst encouraging positive management of those features lost or under threat. The restoration of stone walls should be given priority, creating a stronger field pattern and helping to integrate new development into the landscape. The restoration of limestone grasslands, which are generally found on the rocky outcrops, is also a priority. This will help to create a more mixed pattern of land use, whilst increasing the occurrence of semi-natural habitats. In particular, grassland should be recreated on areas that are currently cultivated and as part of the restoration of quarries.

Dove Holes (© Paul Clarke, Natural England)

FORESTRY AND WOODLAND

Forces for Change

Woodland in this landscape is limited to shelter belts, small plantations and boundary trees. Considering the open and expansive character, extensive new woodland planting would be generally inappropriate; however, limited tree planting and small-scale woodland could be used in and around settlements to integrate new development into the landscape and as part of restoration proposals for quarries. Many of the existing woodlands are threatened by neglect, with aging trees and scrub encroachment.

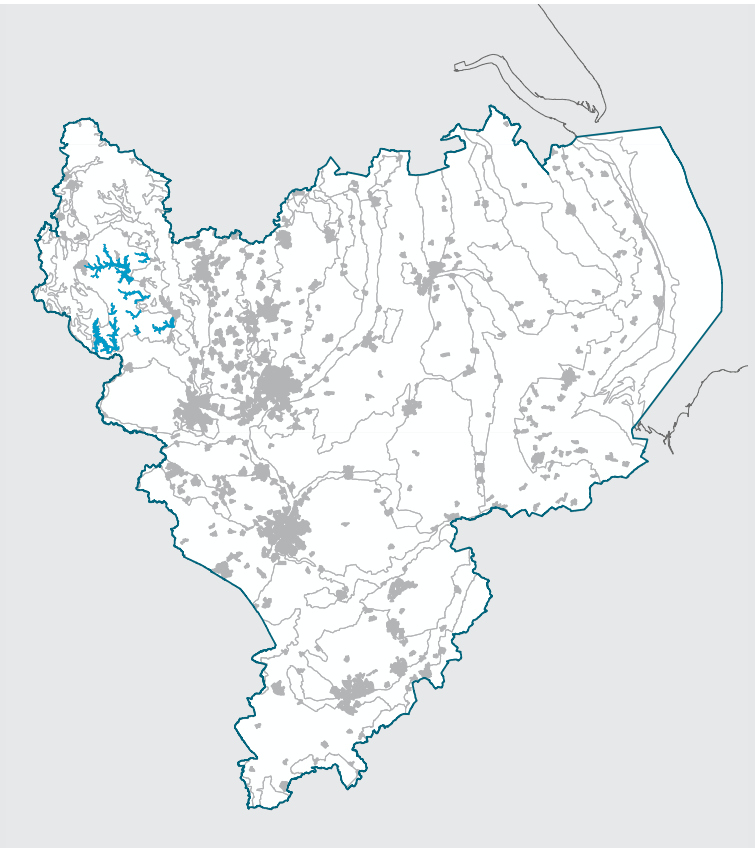
Shaping the Future Landscape

The aim should be to plan new woodland and tree groups around key settlements and other suitable locations and manage existing woodlands, restoring age and improve their structural diversity. This may include the creation of woodland edge habitats, but with the exclusion of the visually bold and simple shelterbelt plantations that are often confined to very few species. Along with the restoration of grassland, this will help to create a mixed pattern of land-use and enhance the occurrence of semi-natural habitats. Such proposals should be undertaken in collaboration with the Forestry Commission and local landowners, and financial support may be available through the English Woodland Grant Scheme.

6C:

LIMESTONE DALES

Steeply valley sides and clear fast flowing streams are typical of many Limestone Dales (© Derbyshire County Council)



KEY CHARACTERISTICS

- Intricate and dramatic landscape of steep dales and gorges dissecting the plateau of the Upland Limestone Pastures;
- Valley morphology strongly influenced by nature of underlying geology with tight narrow gorges and cliffs in contrast to wider valleys;
- Clear, fast flowing streams and rivers in some dales; others remain dry or are only seasonally wet;
- Mosaic of herb-rich grassland, ancient woodland and scrub on steep dale sides provide valued and protected semi natural habitats;
- Craggy outcrops, cliff profiles, stacks and caves often form evocative shapes and are named features in the landscape;
- Sporadic evidence of industrial activity in the form of water powered mills and mines;
- Settlement, transport infrastructure and tourism have a localised effect on sense of rural tranquillity and naturalness that is particularly strong in the more remote upper reaches of the narrowest dales; and
- Landform and woodland enhance the strong sense of visual containment and detachment from wider landscape.

LANDSCAPE CHARACTER

The Limestone Dales is perhaps one the most distinctive and intricate landscape types in the region and is characterised by steep sided valley formations and ravines through the rolling plateau of the Upland Limestone Pastures.

The dale sides are characterised by steep rocky cliffs and scree slopes and are generally inaccessible, often leading to the dales landscape retaining a remote and tranquil character. Access is possible along the floor of the dales, and many of the larger dales have been utilised as transport corridors, with roads and tracks running parallel to the narrow watercourse, perhaps following ancient routes through the landscape.

The thin soils and light grazing regimes have ensured that dales are characterised by a diverse range of habitats, including species rich calcareous grassland, ancient woodland and scrub. The complex matrix of habitats leads to a semi natural character, and the high species diversity has prompted significant areas to be designated for their nature conservation interest.

Woodland cover and steep valley sides impart a strong sense of enclosure and visual containment. As such, when the dales remain free of infrastructure and development, they retain a tranquil and secluded character. However, during the summer, many dales attract visitors in great numbers, and consequently some areas have a very busy character.

Limestone Dales (© Natural England)

PHYSICAL INFLUENCES

The gently rolling plateau of the Upland Limestone Pastures is dissected by several major rivers, notably the Dove Manifold, Lathkill and Wye and associated dry tributaries. Given the porous nature of the limestone geology, it is suggested that the courses of the main rivers, rising on the less permeable grits and mudstones to the north, were 'superimposed' onto the limestone surface as the overlying rocks were slowly eroded away. Subsequently the watercourses became deeply incised, with the effect of lowering the regional water table to the extent that the upper sections of the network of tributary valleys are now dry.

The nature of the underlying geology has exerted a strong influence on the character of the dales. The rivers have cut impressive gorge-like incisions into the limestone plateaux, which in some cases, may have been the result of opening up underground passages and cave systems. Particularly dramatic features occur where outcrops of harder or softer limestone and natural fault lines create precipitous buttresses, caves and rock spires, such as Ilam Rock in Dove Dale. Many of these natural features have been given evocative names and may have once been part of folklore and legend. By contrast, dales in the strongly folded basin 'limestones', such as the valley of the Manifold, are much more open and on a larger scale and contain fewer dramatic limestone features. These features, together with quarries, provide an excellent geodiversity resource so it is important that practices are in place for their care, maintenance and management, and the promotion of their educational and interpretational interest.

Whilst many dales contain permanent watercourses, in some areas the rivers disappear underground for part of their course. Many tributaries are also dry because of the lowering of the water table. In winter or periods of heavy rainfall, dry dales and stretches of valley with no surface stream, can flow with water again, although in many instances this is a short-lived phenomenon and a period of dry weather can quickly lower the water table making surface water flows disappear.

The underlying limestone generally gives rise to shallow and in places strongly calcareous soils. These are particularly thin on steep rocky slopes and deeper along the floor of the dales. The steep slopes are unsuited to intensive grazing or arable farming, and as such, extensive areas of unimproved herb rich limestone grasslands are characteristic. These tend to be grazed by sheep, although where grazing is restricted, grasslands are found with regenerating scrub, often dominated by hawthorn. Woodlands are also characteristic, with daleside ashwoods of particular local significance. Indeed, semi-natural broadleaved woodlands are a defining characteristic of several dales, adding significantly to nature conservation interest and sense of visual containment.

The dales rivers are among the purest in the UK. One of the key indicators of water purity is the 'crawkie' or freshwater crayfish, which can be found in a several locations. The clear water also attracts swarms of hoverflies, mayflies and dragonflies, which in turn encourage large populations of birds to the daleside woods and scrubland. The nature conservation importance of the dales is recognised by extensive stretches of the dale floor and sides being designated for the nature conservation value.

CULTURAL INFLUENCES

Settlement and farming is not common in the dales, owing to their inaccessibility and the limited and marginal nature of available land for agriculture. Despite this, it is possible to imagine Palaeolithic and Mesolithic communities sheltering in some of the many caves in the dales as they followed herds across the neighbouring uplands.

In later centuries, the dales appear to have been used to define territories surrounding communities across the plateau. Remnants of numerous prehistoric bowl barrows have been found on the margins of the dales, perhaps indicating that small communities were established on more gently sloping dale sides and were siting ancestral tombs along the crests of hills to legitimise claims on the land. Today, parish boundaries lie along the centre of many valleys, and it is possible that these mark parts of much more ancient territories. Many dales also function as convenient routes through the limestone uplands, and again, several of today's routes and crossing points in the dales may have prehistoric origins, but were first metalled between the late 17th and early 19th century as Turnpike roads. Limited stretches of the dales were also used to take rail lines through the uplands. Many are now dismantled but their routes form the basis of popular walking routes. Several sites were also exploited in the early industrial period. Fast flowing streams became the focus of water powered mills; larger mills for textile working can still be seen at Cressbrook and Litton, both established on the Monsal Dale in the late 18th century, although smaller mills for corn and lead processing can be found throughout the dales.

Beyond the widespread urbanisation of the Matlock Dale, and occasional daleside villages, there is only limited settlement within the dales landscape, and significant areas retain a semi natural character. However, even in the wildest and most remote areas, stone walls or other boundaries mark out land ownerships or control grazing herds.

The dramatic and remote character of the dales has long attracted visitors, and they continue to be popular destinations for walking and relaxing. Several of the most popular sites, such as the caves and stepping stones of Dove Dale contain tourist facilities such as picnic sites and car parking, and attract hundreds of thousands of visitors every year.

AESTHETIC AND PERCEPTUAL QUALITIES

Secluded stretches of the Limestone Dales sometimes appear timeless, and evoke scenes probably little changed to those experienced by the earliest communities that moved through the landscape following the retreat of the last glacial ice sheets. In particular, scree slopes and limestone cliffs with caves, cloaked in occasional belts of scrub and woodland are particularly evocative. Indeed, long stretches of the dales are inaccessible except on foot, and notable tracts appear little disturbed by visitors.

Limestone Dales, Wolfscote (© Martin Banham, Natural England)

Whilst many of the dales retain a remote character, settlement or transport infrastructure are sometimes present and exert a dramatic influence on local landscape character. However, visual intrusion is often reduced by the effects of vegetation and landform limiting long distance views. Also, in the summer, even the most remote areas are affected by many hundreds of visitors walking along the dales and visiting popular destinations.

On the whole, the Dales possess an intimate, secluded character and provide significant opportunities to find remote and tranquil places that are rich in biodiversity, and contain evocative natural geological landmarks or heritage features.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Settlement is not common in the Limestone Dales and there is little pressure for new built development. However, mills built to harness water power are a characteristic feature.

Shaping the Future Landscape

The aim should be to protect existing mills, ensuring that they continue to contribute to the landscape character and provide a tangible reminder of their historic use and industrial archaeological interest. Opportunities should be explored to manage the sensitive restoration of deteriorating mills for recreational and educational benefits.

MINERALS AND WASTE

Forces for Change

Man-made activities impact on the character of the Limestone Dales in the form of modern limestone quarries and lead mining remains. Although the area benefits from the protection afforded by national landscape, heritage and nature conservation designations, the high demand for aggregates, and therefore pressure for new and expanded quarries, could result in further visual intrusion, loss of tranquillity and potential adverse effects on heritage features and wildlife habitats.

Shaping the Future Landscape

The aim should be to manage mineral extraction, ensuring activity is located away from visually prominent and sensitive locations including the Peak District National Park. Planning guidance for the siting and design of quarries should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out proposals for restoration of quarries including the protection and management of sites and areas of geodiversity interest, including access for education and interpretation, and opportunities for biodiversity enhancement.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

The slopes in the dales are generally too steep for arable farming and improvement, and the landscape retains extensive areas of unimproved grassland. Grazing is important for maintaining the vegetation structure and overall ecology of the grassland. However, changes in agricultural practices have led to a reduction of grazing in recent decades.

Shaping the Future Landscape

The aim should be to manage the frequency and intensity of grazing, ensuring landscape and biodiversity character is enhanced or restored.

FORESTRY AND WOODLAND

Forces for Change

The Limestone Dales are well wooded, with large mixed woodland along the valley sides. This creates a strong sense of enclosure and an intimate character. However, increasing woodland cover has resulted in the loss of views and species-rich grassland. Woodland management is also sporadic in places, resulting in scrub encroachment.

Shaping the Future Landscape

The aim should be to manage existing woodland, limiting the invasion of scrub and removing invasive species. Consideration should also be given to restoring the mosaic of habitats and opening up of key views by selective removal of wooded areas. New woodland planting is generally inappropriate. However, tree planting may form part of quarry restoration proposals.

TOURISM AND LEISURE

Forces for Change

The White Peak is a popular tourist destination, famed for its tranquillity and rich geological and cultural heritage. As such, this area experiences considerable visitor pressure. Indeed, the Limestone Dales are popular with walkers and day-trippers, and there are a number of car parks along the valley floors. In a few places, large numbers of people, along with supporting visitor facilities, can result in the damage, loss and fragmentation of natural features, reduce tranquillity and cause visual intrusion.

Shaping the Future Landscape

The aim should be to protect the distinctive character of the landscape and consider the visual and environmental impact of any new or extended visitor facilities. The management of public access should also be encouraged, helping to conserve the natural environment whilst enhancing the dales as a recreational resource.

6D:

LIMESTONE FARMLANDS

Gently rolling landform with large woodlands (© Derbyshire County Council)

KEY CHARACTERISTICS

Derbyshire Limestone Farmlands

- West facing escarpment and gently rolling limestone dipslope with areas of subdued relief and rolling summits;
- Series of deeply incised valleys and gorges;
- Fertile soils supporting productive arable farmland, set within a regular pattern of large hedged fields;
- Well wooded dipslope with large and medium woodlands and belts of trees;
- Nucleated pattern of small stone villages and large industrial age towns;
- Consistency in the use of 'Magnesian Limestone' for simple cottages, workers houses, industrial premises and grand country houses up until the widespread use of brick in the later Victorian period;
- Widespread evidence of past mining operations, with localised evidence of continued quarrying activity; and
- Long distance views from the scarp slope westwards over the neighbouring Settled Coalfield Farmlands.

Northamptonshire Limestone Farmlands

- Gently undulating and elevated open plateau overlying limestone with expansive long distance views and wide panoramas;
- Predominance of arable land with isolated areas of pasture, with mainly large to medium scale geometric fields contained by stone walls or hedgerows, and smaller field adjacent to villages;
- Sparse woodland cover limited to small deciduous and occasionally coniferous farm woodlands;
- Underlying geology expressed in the consistent use of limestone for buildings, roof slates and stone walls; and
- Sparsely settled with a network of minor roads connecting rural settlements

LANDSCAPE CHARACTER

In Derbyshire, the Limestone Farmlands Landscape Character Type is strongly influenced by the nature of the underlying geology, both directly in the form and shape of the land, and indirectly by the changing patterns of land use and industry. The principal representation of the landscape type occupies a distinct belt of rising ground along the eastern fringes of Derbyshire. Here, the western fringes of the landscape type are defined by a steep, folded scarp slope overlooking the neighbouring Settled Coalfield Farmlands. From here the land falls eastwards gradually across an undulating dipslope to the Sandstone Forests and Heaths to the east.

The landscape type is also represented in Northamptonshire in two small areas in the south western and north eastern sections of the county where the Jurassic Limestone outcrops. Here, the limestone farmlands are represented as a sparsely settled plateau landscape with a strong agricultural character. Arable farmland predominates with intermittent small deciduous copses and shelterbelts. Isolated farmsteads are dispersed across the area together with small compact villages, often on the fringes of the plateaux. Active military airfields are also present, which together with their associated infrastructure, are conspicuous in the open landscape.

The Limestone Farmlands Landscape Character Type is a simple yet distinctive agricultural landscape characterised by a well defined pattern of fields and woodlands, interspersed with rural villages and estates across the dipslope and a more open character along the western scarp of the 'Magnesian Limestone' and the plateaux within Northamptonshire. In Derbyshire, the influence of coal mining is evident in some areas in the form of large mining settlements and restored pit heaps. Indeed, several settlements have grown to form large urban areas, which exert a strong influence on their rural hinterland.

Limestone Farmlands, Ashford in the Water
(© P Clarke, Natural England)

PHYSICAL INFLUENCES

In Derbyshire the Permian 'Magnesian Limestone' (Cadeby and Brotherton Formations) sequence forms the dominant geological influence on the landscape. This comprises sequential layers of dolomite and dolomitic limestone and red mudstone. This sequence is often difficult to discern, but may be observed where rivers have cut through the bedrock.

The properties of the underlying rocks have had a significant influence on the shape of the land. The 'Magnesian Limestone' is a compact, partially crystalline rock which provides good building stone. With its relative hardness it generally forms the most elevated areas, whereas the softer red clays of the Edlington Formation give rise to a more subdued relief.

The limestone forms a steep scarp along the western fringes of the landscape overlooking the neighbouring Settled Coalfield Farmlands. The scarp is irregular and folded as a result of westward draining streams cutting deep valleys into the underlying Coal Measures. To the east is a pronounced dip slope, with an average fall of 90m. The thickness and compactness of the limestone gives rise to a series of rolling summits, particularly evident in the vicinity of Mansfield. These geomorphological features, together with quarries, provide a good geodiversity resource so it is important that practices are in place for their care, maintenance and management, and the promotion of their educational and interpretational interest.

The limestone escarpment forms a significant local watershed. Several rivers and streams drain eastwards across the dipslope towards the Trent, often occupying narrow, deeply incised valleys. The Milford Brook at Creswell Crags is a particularly dramatic example. To the west of the scarp are a series of smaller watercourses. To the north of Mansfield these form the headwaters of tributaries of the River Rother, and to the south they feed numerous tributaries of the River Erewash, which meets the Trent at Nottingham. The most prominent of the valleys is associated with the Meden, notably at Pleasley Vale. The river has cut back through the escarpment so that its headwaters now lie in the neighbouring coalfields.

The 'Magnesian Limestone' has been weathered to form fertile, free-draining calcareous brown earth soils. These have a fine loamy texture and are productive and easy to work, resulting in widespread arable farming across the gentle topography. Soils developed on the Permian Marl have a heavier texture, with slowly permeable clay subsoils leading to seasonal waterlogging and placing limitations on agricultural capacity. Despite this, drainage and management allows productive arable farming.

Post war agricultural intensification and reversion to arable cropping has significantly reduced the area of semi natural habitat. Despite this, small, isolated pockets of limestone grassland survive, notably on road verges, railway cuttings and in old quarries. The major habitat features are large woodlands on the dipslope. Many larger woodland sites are ancient, although replanting with conifers has resulted in the suppression of their species rich flora. Notable areas of new planting are also evident, often associated with reclamation and restoration of former quarries or mines.

In Northamptonshire, the Limestone Farmlands are underlain by the Jurassic Oolitic Limestones with the Blisworth Limestone Formation and the Lincolnshire Limestone underlying the south western and north eastern parts of county, respectively. This limestone geology is expressed in the buildings, stone walls and roof slates and also in the rock fragments in the ploughed fields.

The elevation of the Limestone Farmlands is relatively low, with an almost flat or very gently undulating landform, and with few watercourses. However, the wide and often uninterrupted panoramas give the impression of a more elevated landscape. More varied and steeper slopes are evident on the fringes of the plateaux, however.

The land use is predominantly intensive arable farmland in medium to large scale geometrical fields and although generally well managed there is some evidence of dilapidated stone walls and gappy hedges. Woodland cover is low across the Limestone Farmlands confined to small deciduous copses and geometric shelterbelts. Soils are generally thin, stony, free draining and alkaline in the south western area, but in the north east are mainly well drained, brashy, fine loamy soils.

Where large military airfields occur on the Limestone Farmlands, these are associated with areas of improved grassland and blocks of coniferous woodlands or other alien species.

Limestone Farmlands (© P Clarke, Natural England)

CULTURAL INFLUENCES

Derbyshire Limestone Farmlands

Some of the most compelling evidence for the earliest phases of human occupation in the region can be found in the many caves found throughout the 'Magnesian Limestone'. Finds suggest that communities were settling, albeit perhaps temporarily, in the area during and after the later Ice Ages. The most well known site is at Creswell Crags which shows that successive generations of hunter gatherers were returning to a landscape that was gradually changing from tundra to birch and pine forest, later to become the dense oak forests of the wild wood.

Surface finds of flint and stone tools suggest that Neolithic farmers were the first to make substantial clearances of these woodlands although these clearances were to continue through successive millennia up to the end of the Iron Age, when the woodlands would have been substantially felled and the brown earths cultivated.

Whilst evidence of prehistoric settlement and farming is scarce, finds give more certainty in establishing patterns of Romano British occupation, and it is suggested that wide areas of the landscape were being cultivated, and woodlands, probably managed as coppice, were only retained in marginal areas such as on sloping landform that was too steep to plough.
Following the decline in population in the 4th and 5th centuries, it is suggested that settlement and farming contracted to the western fringes of the limestone, close to a greater variety of resources, and that woodland or limestone heath regenerated in more marginal areas. However, as populations again began to rise in the mid to late Saxon period, permanent settlements were being established or at least formalised as clearings in the woods or on former heath land. The 'field' suffixes of Ashfield and Mansfield implies settlement in a landscape largely cleared of wood whereas 'ley' suggests settlements within woodland clearings as at Pleasley and Whaley Thorns.

By the early Norman period, the landscape was thinly populated and characterised by woods and heaths with settlements gravitating towards the western fringes of the 'Magnesian Limestone' where the clays of the adjacent coalfields could be cultivated. The general scarcity of population may have prompted the Norman Kings to bring much of the area under Forest Law, and led to the creation of hunting parks and donation of lands for the formation of monasteries.

Despite royal interventions through the redefinition or reaffirmation of the special status of the landscape in the 13th century, the landscape was under increasing pressure though settlement expansion or creation. In the north this was perhaps more limited; however, the general picture is one of widespread farming and patchy woodland, with

sizable tracts of woodland conserved in private parks or on monastic estates. This pattern was to continue throughout the 16th and 17th centuries when monastic estates passed into private hands, and new parks were added to existing manor houses. It was further reinforced in the 18th and 19th centuries by the setting out of larger ornamental gardens and plantations around grand country residences.

This period also saw the enclosure and improvement of the agricultural landscape, with surveyors setting out the large regular and rectangular fields that contrast to earlier piecemeal fields around the periphery of settlements. Initially animal husbandry dominated, although this was to take a marked shift towards cereal production from the late 19th century, and especially during and after the Second World War.

Despite the predominantly rural character of the landscape, traces of its industrial past can still be found. Wool processing and cloth making were particularly significant and led to the first phase of industrialisation and settlement expansion in the later 18th century. Stone was generally more readily available than brick, and as such, newly established farms, mills, factories and workers cottages were all built out of the local limestone, creating a distinctive building style in both rural and urban areas.

From the mid 19th century further transformation of the landscape arose from the development of deep coal mining in the form of pit heads, waste heaps, further settlement expansion and major infrastructure such as canals and railways. Whilst the mines have all but closed, remnants of this period can still be seen in the landscape, and perhaps most dramatically in the Victorian and Edwardian brick suburbs of several towns fringing the landscape.

Northamptonshire Limestone Farmlands

There is limited evidence of former periods of occupation, with sites of heritage interest mainly confined to the south western area of Northamptonshire including the Iron Age hill fort of Rainsbrough Camp, and a few deserted medieval settlements. Intensive farming following the period of enclosure appears to have largely obliterated many features including field systems or ridge and furrow.

The Limestone Farmlands are sparsely settled with isolated compact farmhouses contributing to a remote character. Villages are small and dispersed and many are located on the fringe of the plateau areas where steeper land falls away to the surrounding lowland. Use of the local limestone for the buildings is a unifying feature.

The military airfields within the Northamptonshire Limestone Farmlands, comprising RAF Croughton in the south west and RAF Wittering in the north east, are significant landscape features. Wittering Aerodrome dates back to the First World War and is now the home of the Harrier Jump Jet. The airborne manoeuvres and flights associated with both bases, and also the lighting, affects the tranquillity of the surrounding rural area. The fencing, infrastructure and military buildings and housing associated with the airfields also affects wider views across the open plateau farmlands.

AESTHETIC AND PERCEPTUAL QUALITIES

The predominance of intensive arable farming across the Derbyshire Limestone Farmlands imparts a productive agricultural character to the landscape. The rural character is further reinforced by frequent nucleated rural limestone villages and parklands, often set around large country residences.

In juxtaposition to this, large urban areas and evidence of mining and industry, notably around the old coal mining centres, have a localised influence on landscape character, adding somewhat to the distinctive local identity and sense of place. In many instances, the enclosure of the land and industrialisation were being undertaken in parallel, such that the perception of the landscape is one of industrial age rationalisation and industrialisation. Indeed, the use of the local 'Magnesian Limestone' in rural cottages, villages, farmhouses and factories, binds contrasting elements together to provide some visual cohesion.

The network of hedgerows defining the large regular fields emphasise the gently rolling character of the dipslope landscape. Areas associated with the larger estates appear to be well maintained, with dense networks of hedgerows dividing up moderately sized fields, interspersed with deciduous shelterbelts, plantations and larger irregular woodland blocks such as in the vicinity of Shirebrook, Whaley Thorns and east of Creswell. However, some areas, and notably close to large urban centres, are showing signs of decline. Elsewhere, hedgerow removal to create large fields is evident, further contributing to the perceived declining character of the landscape.

On the dip-slope and notably in areas along the eastern fringes, parklands, large woodlands and belts of trees combine with the rolling landform to create a strong sense of enclosure. Where longer distance views are possible, these are often truncated by wooded horizons. By contrast, wide panoramas across the neighbouring Settled Coalfield Farmlands are possible from the crest of the escarpment.

Despite the low elevation and small scale of the Northamptonshire Limestone Farmlands, the impression is of an expansive and large scale landscape. The generally sparse settlement pattern also conveys an 'empty' and isolated character. In contrast, other areas such as those around villages and in proximity to the large military airfields appear busy and cluttered.

LANDSCAPE CHANGE AND MANAGEMENT

BUILT DEVELOPMENT

Forces for Change

Modern development is affecting the character of rural villages and extending the urban fringe of larger settlements, such as Nottingham and Mansfield, in the Derbyshire Limestone Farmlands where there are opportunities for large scale residential, commercial and industrial development. In contrast, there is limited evidence of development within the Northamptonshire Limestone Farmlands, confined to infill and small scale extensions within the rural villages.

Shaping the Future Landscape

The aim should be to manage growth, ensuring development is appropriate in terms of type, scale and location and considers the visual impact of any new development. Best practice innovative architectural ideas and planning solutions should be employed to minimise impact on local character, and tree and hedgerow planting should be used to

help integrate new development into the landscape. In more rural areas, Village Design Statements may be appropriate, ensuring appropriate use of vernacular styles and building materials. In more urban areas, planning guidance for settlement coalescence may be appropriate, ensuring strategic gaps between main towns and surrounding settlements are maintained. As well as Village and Town Design Statements, Conservation Area Appraisals can also be important tools.

INFRASTRUCTURE

Forces for Change

Although not currently characteristic of this landscape, the Limestone Farmlands are under threat from telecommunication infrastructure, creating visual landmarks in this predominantly open landscape and reducing the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be to protect the character of the landscape by siting infrastructure away from visually prominent locations and ensuring installations are of an appropriate size and scale. Increased sharing of masts and sites between operators should also be considered, along with removal of redundant masts.

ENERGY PROVISION

Forces for Change

Given the Government's commitment to renewable energy provision, the Limestone Farmlands may face pressure from wind farm development, due to the strength of the prevailing winds across the open elevated landform. As with telecommunication equipment, such infrastructure can create visual landmarks and reduce the sense of remoteness and isolation.

Shaping the Future Landscape

The aim should be to protect the character of the landscape by appropriately siting and designing new wind energy installations. There is potential for strategic regional and sub regional level guidance on commercial wind energy schemes, including cumulative impact, informed by the EMRLCA and other studies. In addition, planning guidance should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out the criteria against which new applications will be assessed.

MINERALS AND WASTE

Forces for Change

In the Derbyshire Limestone Farmlands there are currently a number of large quarries serving local and national demand for limestone. These are located near Nottingham and Mansfield, and are generally well hidden by settlement, infrastructure and landform. However, the high demand for aggregates, and therefore pressure for new and expanded quarries, is likely to result in further visual intrusion, loss of tranquillity and adverse effects on heritage features and wildlife habitats.

The coal mining industry also has localised impacts on the landscape. The development of collieries, spoil tips and infrastructure has altered the character of many rural areas, and the decline of the coal industry is now leading to their replacement with new forms of industry. As with other forms of built development, this can create visual intrusion and loss of surrounding landscape features.

Shaping the Future Landscape

The aim should be to manage quarrying, ensuring activity is located away from visually prominent and sensitive locations. Planning guidance and action plans for specific sites for the siting and design of quarries should be produced at the county and/or district level where necessary, establishing the most appropriate sites for development and setting out proposals for after-use; quarries can provide valuable landscape, geodiversity, biodiversity and recreation benefits.

The aim should be to manage the redevelopment of former coal mining sites, ensuring new development is appropriate to the landscape and visual context and that heritage features are retained, providing a link with the industrial past and a focal point for new development.

AGRICULTURE AND LAND MANAGEMENT

Forces for Change

Agricultural intensification has brought about the large-scale loss and damage of many characteristic features, including field boundaries, semi-natural habitats and features of historic interest, such as ridge and furrow. This weakens the pattern of land use and contributes to a more homogenous landscape.

There is marked evidence that energy crops, in particular Miscanthus, are being cultivated to meet renewable energy targets. These fast growing and tall crops would radically change the appearance of the open character of the Limestone Farmlands, altering localised views and character. There is also a requirement for storage and processing facilities, which along with other new agricultural buildings, can cause visual intrusion and reduce the sense of remoteness.

Shaping the Future Landscape

The aim should be to protect existing landscape features, whilst encouraging positive management of those features lost or under threat. The restoration of hedgerows and stone walls should be given priority, creating a stronger field pattern and helping to integrate new development into the landscape. The restoration of limestone grassland is also a priority, helping to create a more mixed pattern of land use, whilst increasing the occurrence of semi-natural habitats. In particular, grassland should be recreated on areas that are currently cultivated and as part of the restoration of quarries.

The aim should be to protect the distinctive open character of the landscape and consider the visual impact of energy crops and associated facilities. New buildings should be located away from visually prominent locations and close to existing settlement and infrastructure where possible. Although the introduction of energy crops will be more difficult to manage, grant applications to Natural England or the Forestry Commission may require an assessment of landscape and visual impacts.

FORESTRY WOODLAND

Forces for Change

In the Derbyshire Limestone Farmlands woodland forms a significant component of the dipslope landscape, with medium to large woodlands evident close to towns such as Whaley Thorns, Shirebrook and associated with parklands as at Welbeck Abbey east of Creswell. Woodland is less extensive within the open plateau landscape of the Northamptonshire Limestone Farmlands, and confined to small copses and shelterbelts.

Shaping the Future Landscape

The aim should be to promote amenity trees and small tree groups around key settlements, and more intimate and low lying areas, and as part of proposals to restore and / or enhance parkland. However, much of this farmland remains open, and it is important to retain open views from more elevated locations.

In the Derbyshire Limestone Farmlands new woodland planting would be generally appropriate in association with existing wooded landscapes, helping to increase the overall woodland coverage in the region and used as part of proposals to screen new development and restore redundant quarries. However, , new woodland planting in the more open landscapes along the western 'Magnesian Limestone' scarp would be considered inappropriate, and particularly where views across the neighbouring lowlands would be obscured. Similarly, in the Northamptonshire Limestone Farmlands, new woodland planting should be confined to small scale woodlands that complement the existing pattern.

The aim should also be to manage existing woodlands, restoring age and ecological diversity. This should include the creation of woodland edge habitats, which along with the restoration of grasslands, will to help create a mixed pattern of land use and enhance biodiversity. Such proposals should be undertaken in collaboration with the Forestry Commission and local landowners, and financial support may be available through the English Woodland Grant Scheme.