

The White Peak

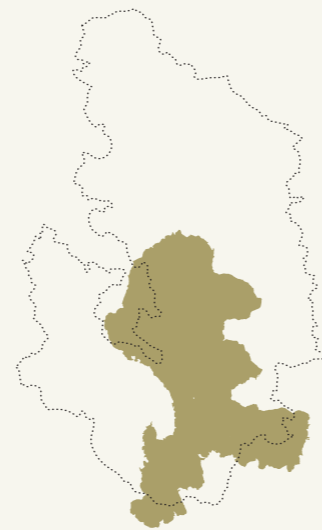


Chrome Hill © Peak District National Park Authority

Introduction

The White Peak is an area of largely pastoral settled limestone uplands lying on both sides of the boundary between Derbyshire and Staffordshire at the southern end of the Pennine Hills. The term 'white' derives from the limestone geology which provides the distinctive grey and white stone used extensively for building and walling materials. The region comprises an elevated limestone plateau dissected by distinctive deeply cut dales and gorges. Some dales contain clear rivers, streams and springs; others are dry or run water only in winter. The dale edges contain cave systems and crags that contrast strongly with the adjoining landscapes character area. It has a strong sense of place associated with its underlying geology and its influence on manmade features such as drystone walls and traditional buildings is apparent and characteristic. The dales are of significant wildlife value, particularly because of their flower-rich limestone grassland and ash woodland, and many contain clean, clear rivers which support numerous species.

The plateau is rich in archaeology, from Neolithic burial mounds and stone circles, to the remains of early lead workings, to historic landscapes with their distinctive field patterns.



Physical influences

The physical structure of the White Peak is strongly influenced by weathering and erosion of the underlying Carboniferous limestone. This can be subdivided into three distinct types of rock, each producing a different shape to the land surface. The most common type over much of the central plateau, the so-called 'shelf' limestone, is pale grey in colour and thickly bedded in gently dipping layers, giving a gently rolling topography. In the south-west of the region is the 'basin' limestone, which is darker grey in colour and occurs in thinner, more strongly folded beds. The least common is the 'reef' limestone, which is rich in fossils and largely devoid of bedding. The last, which is a hard, fine-grained rock, resists weathering and produces conical hills, known as 'reef knolls', around the plateau edge, for example at Thorpe Cloud and Wetton Hill.

Two belts of dolomitised limestone occur in the south-east of the region. The most distinctive landscape features associated with these limestones are the prominent dolomite tors, notably Rainster Rocks and Harboro Rocks. Volcanic rocks, locally termed 'toadstones', also commonly occur interbedded within the limestone in the White Peak and were traditionally important because they were associated with spring lines.

The movement of mineralising fluids through faults during deep burial of the sediments, probably at the end of the Carboniferous period, has left large mineral deposits of lead, copper and zinc ores, as well as fluorspar, calcite and barytes, which often run in veins through the limestone bedrock. These deposits have been worked extensively in the White Peak, leaving many disused mines, linear rakes and spoil heaps throughout the landscape.

The gently rolling limestone plateau is deeply dissected by the rivers Manifold, Hamps, Dove, Lathkill, Wye and Derwent, along with their associated network of tributary valleys which are often dry for some or all of the year. Some dales, such as Dovedale and Monsal Dale have impressive gorge-like incisions created by glacial meltwaters, which cut into the limestone plateau in a series of tight loops. Some of the main gorges have rivers and streams flowing through them, but the Manifold, Hamps and the upper Lathkill gorges are seasonal, with the water passing through the underground cave systems in summer. Locally at the edge of the White Peak a number of sinkholes drain water directly into the cave systems.

Ecological influences

For the most part the soils in the White Peak are derived from loess, a fine silty sediment that was deposited during the final phase of the last glacial period by cold icy winds sweeping across the limestone plateau. This helps to explain how, despite the moderately high altitude, agriculturally productive pastures on rich loamy soils predominate over extensive areas. Although the majority of this land has been agriculturally improved to varying extents, a limited number of flower-rich hay meadows survive in places and typically support species such as oxeye daisy, knapweed, yellow rattle and lady's bedstraw. Skylarks are widespread, and curlew breed in small numbers. Where soils are shallow, especially on crests and steep slopes, occasional flower-rich pastures and calcareous grasslands survive. Limited areas of arable land occur in places, but can be important for brown hares and birds such as lapwing, yellowhammer and, rarely, yellow wagtail. Small shelter belt plantations provide habitat for commoner woodland birds

and other animals, and the network of dewponds is particularly important for great crested newts. Road verges can support important relics of formerly more widespread vegetation, ranging from characteristic swathes of meadow cranesbill to relic patches of heather. A small number of silica sand pits support several important species such as clubmosses.

On higher ground, the soils are often poorer and leached, giving rise to acid grassland and heath. These habitats were once widespread across much of the limestone plateau. Above 350 metres the cooler climate favours the development of peaty topsoils and ironpans with impeded drainage. Such factors limit the agricultural potential of the land in these areas and in places, a few small relics of the original limestone heath survive. More commonly, patches of hilltop rough grazing land occur, often supporting acid grassland with species such as mountain pansy and bilberry in the sward.

On the steeper slopes of the dales and around the edge of the limestone plateau, shallow soils with dark, humose surface layers predominate. As these slopes are often too steep for pasture improvement they commonly support strikingly species-rich calcareous grassland with early purple orchids, cowslips, wood anemones, rockrose, wild thyme and an abundance of other lime-loving plants, with a correspondingly rich insect life. On deeper soils in the dales neutral species-rich grassland is widespread, and on ungrazed or lightly grazed north-facing slopes a particular type rich in tall herbs such as valerian and ferns has developed very locally. This provides the British stronghold for the elegant jacob's ladder. Towards the top of the slopes, where loess has washed down from the plateau above, more acid grassland often occurs. Limestone cliffs and scree are a common feature throughout the dales. They provide nesting sites for birds such

as raven, and are important for their plantlife, mosses, liverworts and lichens, and specialised invertebrates.

Semi-natural ash woodland, much of it ancient, clothes extensive areas of steep slopes on many dalesides. Wych elm and hazel are typical associates, and the ground flora is very varied with ramsons often dominating the heavier soils on lower slopes, and dog's mercury and woodland grasses dominating shallower soils and stony ground on the higher slopes. These woodlands support a large number of rare and scarce plants and invertebrates, and typical birds include marsh tit, redstart and a variety of warblers. Areas of scrub are also widespread in many dales: both species-rich hazel scrub which can be particularly important for plants such as globeflower and for butterflies such as dark green fritillary, and more invasive hawthorn scrub. Many dales are dry, but others carry winterbourne streams or more substantial rivers such as the Wye and Dove famed for their trout fishing. Beds of water-crowfoot are typical of permanent sections, while reed canary-grass is common along the edges. Large beds of butterbur are particularly characteristic along ungrazed riverbanks. In a few places springs emerge on the lower dalesides, giving rise to basic flushes rich in sedges and other plants, and with an important invertebrate fauna.

Lead mining has had an important influence across much of the White Peak. Remnant spoil heaps frequently occur as linear features across the landscape, and support a mosaic of important grassland types including specialised metal-tolerant plant communities characterised by species such as spring sandwort ('leadwort'). Both lead mine shafts and natural caves can be important for various bat species.

Human influences

The White Peak has been a focus for settlement since prehistoric times and numerous surviving monuments indicate the extent of former settlement and land use. These include Neolithic ritual monuments such as chambered tombs, long barrows and henges, as for example Arbor Low and Minninglow. Most of the monuments of this period are confined to the limestone plateau, reflecting a significant historic landscape component for this part of the National Park. Bronze Age round barrows are also commonly found in the White Peak, often forming obvious hilltop landmarks; earthworks relating to Romano-British farmsteads also survive on the limestone plateau. These sites make a significant contribution to the character of White Peak landscapes. Anglian grave mounds, including Anglian burials in Bronze Age barrows, are also characteristic of the White Peak.

Today, although not a densely settled region, the White Peak has a very definite nucleated pattern of small rural villages with medieval origins, typically situated at the centre of their former open fields. Several of these were planned settlements with origins in the 12th and 13th centuries. Beyond the open fields, isolated farmsteads occur. While some of these farms have origins as medieval monastic granges, particularly in the higher western areas, most reflect the post-medieval enclosure of the once extensive commons that formerly covered much of the limestone plateau. The widespread use of place names ending in moor, heath and common, and extensive historical documentation for rights of turbary (the stripping of soils to use as fuel), indicate the former extent of semi-natural vegetation and peaty soils in this landscape.

Field patterns within the White Peak, although not as diverse as those in neighbouring regions, are very distinctive due to the widespread occurrence of drystone walls, constructed from the local limestone. Small narrow fields, indicating the piecemeal enclosure of earlier open field strips, are a characteristic feature around villages. Fine examples can be seen at Chelmorton, Tideswell, Monyash, Flagg and Calton. There are also sub-rectangular fields, often quite large with somewhat sinuous boundaries, particularly around granges. Elsewhere, the enclosure is mostly later, either private or late 18th to early 19th century Parliamentary Enclosure of former woody wastes and woody commons, distinguished by a more regular pattern of medium to large sized fields, with ruler-straight boundaries, dissected by straight roads.

Regular field boundaries have generally been built using quarried stone and tend to be neater in appearance than the more random rubble walls of earlier periods. Isolated stone field barns, often of 18th and 19th century date and incorporated within the pattern of stone walls, form a distinctive landscape feature in many places and are concentrated in some areas, for example around Bonsall, Winster and Bakewell. There is an exceptionally high rate of survival of traditional farmsteads in the White Peak and a high proportion remains in agricultural use.

Two minor but important types of agricultural feature which add significantly to local character are dewponds and field kilns. With the enclosure of most of the commons in the 18th and early 19th century, farmers lost easy access to streams and natural meres for their stock, thus many small circular lined ponds were constructed within the fields. When the commons were first improved large quantities of lime produced by individual farmers was spread on the

newly allocated land to burn back the rank vegetation before reseeding. Afterwards, lime often continued to be added in smaller quantities to counteract the natural acidity of soils on the plateau. The kilns were small and either circular or oval in plan and several hundred still survive next to their associated field quarries. A few much larger kilns, related to the production of lime products on an industrial scale, are associated with quarries along the former railway lines, like those in Millers Dale.

Naturally occurring minerals in the limestone, in particular lead ore, have been exploited in the White Peak since at least the Roman period and at times, particularly between 1650 and 1850, brought significant wealth to the area. Although lead mining is now a defunct industry, the remaining evidence of past workings is often marked by distinctive linear features, known as lead rakes, which are typically associated with waste heaps, pits and shafts, sometimes with much rarer features such as derelict engine houses. Smaller exposed veins were sometimes worked by miner-farmers working smallholdings into the 19th century, and some of the field barns around villages are associated with these smallholdings. Research has defined extensive areas of High Priority Leadworking Sites & Landscapes, particularly around Castleton, Peak Forest, Miler's Dale, Longstone Moor, Youlgrave, Winster and Brassington.

Quarrying has also been a feature from the 17th century onwards, often for lime production, but latterly also for roadstone and cement, and continues today on a huge scale in certain parts of the White Peak. Much of the plateau woodland was cleared by the 17th century to supply the lead mines. These industrial features are very important aspects of the White Peak landscape character.

The extraction of semi-precious stone such as Blue John has left only modest surface features, but the complex underground landscapes associated with these activities can be appreciated in the show caves that now form key visitor destinations.

In the 1600s and 1700s extensive areas of the White Peak were covered with wood pasture. This was gradually cleared, giving us the modern agricultural landscape with limited tree cover that we see today.



Green Well in Alstonfield © Peak District National Park Authority

Sense of place

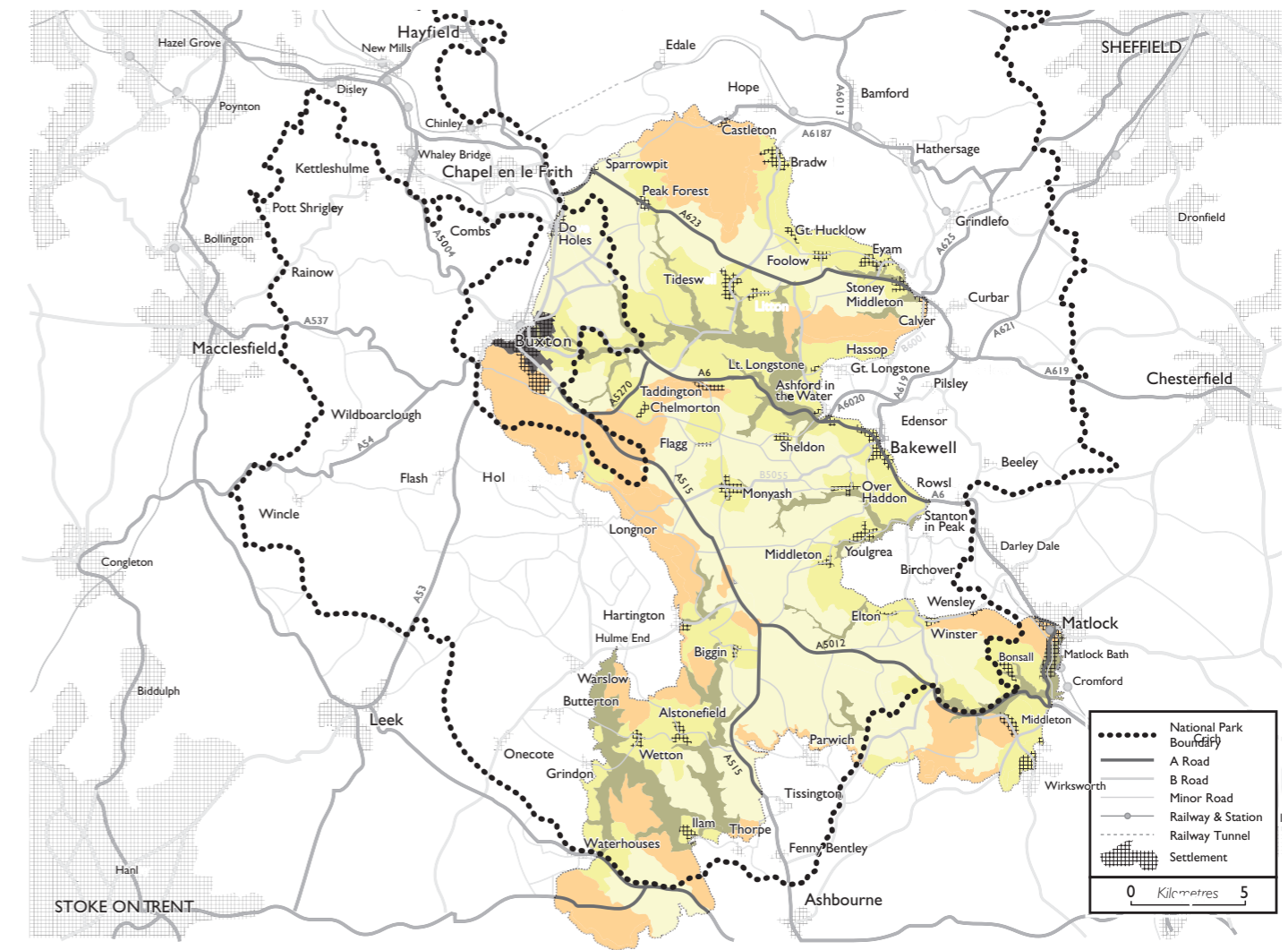
The character of the White Peak is strongly influenced by the underlying geology, which has had a dominant and unifying effect on the character of the landscape. This unity is emphasised by the recurrent visual themes of the high open plateau, stone walls, pastoral farmland and nucleated villages built of local stone. It is reinforced by the visually prominent dales that dissect the plateau and the sparsely populated nature of the higher hills and slopes.

There is a strong sense of enclosure and visual containment in the Dales, which contrasts with the more open nature of the plateau with its extensive views. The plateau tends to be a simpler landscape with its relatively uniform and regular pastoral fields and boundaries, with the Dales and Hills and Slopes being more complex with a more irregular, wooded feel. The settled nature of the Limestone Plateau and the Village Farmlands also contrasts with the more unsettled Dales and Hills and Slopes. Away from the road corridors, this is a tranquil landscape. The Dales and Hills and Slopes have a sense of remoteness and wildness.

The extensive remains of lead and mineral working, both above and below ground, are an extremely important historic aspect of the White Peak landscape.

The White Peak can be subdivided into four different landscape types, each of which is characterised by a particular aspect of the wider White Peak character. These landscape types, which have been defined by their broadly repeating patterns of natural elements and cultural factors, are:

- Limestone village farmlands
- Limestone plateau pastures
- Limestone hills & slopes
- Limestone dales



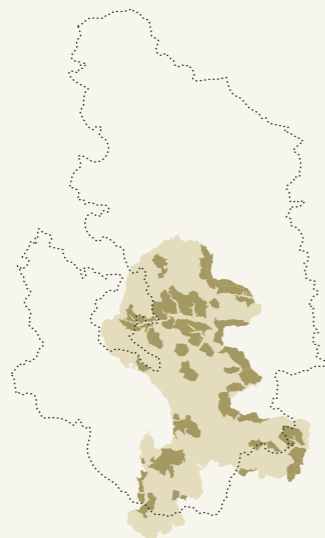
Limestone village farmlands LCT



Fields nr Foolow © Peak District National Park Authority

A small-scale settled agricultural landscape characterised by limestone villages, set within a repeating pattern of narrow strip fields bounded by drystone walls.

The Limestone Village Farmlands has a scattered distribution, occurring throughout the White Peak as a series of small, but discrete units, typically located in lower, more advantaged parts of the limestone plateau. This landscape largely exists on the land above either side of the Wye valley as well as along the eastern fringe of the plateau. Several other more isolated areas occur in the northern and south-western parts of the White Peak.



Key characteristics

- A gently undulating plateau of pastoral farmland enclosed by drystone walls made from limestone with characteristic historic elements such as field dewponds and field barns
- A repeating pattern of narrow strip fields originating from medieval open fields with scattered boundary trees and tree groups around buildings
- Discrete limestone villages and clusters of stone dwellings
- A landscape of historic lead working including relict mine shafts and associated lead mining remains

Geology, landform and soils

This settled agricultural landscape is closely associated with deeper patches of wind blown drift that have been deposited across the limestone plateau. For the most part the plateau has a gently rolling landform and the villages here not only take advantage of the best agricultural land, but each is also sited where there was a secure supply of water, often at spring lines or the edge of the plateau where there were running streams. In places, notably at Winster, Youlgreave, Little Longstone and Bradwell, this landscape is associated with more sloping or undulating ground that lies along the edge of the plateau.

The wind blown drift with which this landscape is associated, gives rise to patches of relatively deep and fertile soils and together with the secure access to drinking water, explains why people settled and started farming the surrounding land in the first place. There are also patches of poorer, thin soils with some rock outcrops.

Species and habitats

As a result of the long history of continual farming in close proximity to the village there is little surviving semi-natural habitat within this settled pastoral landscape.

Tree cover

Due to historic and continuing agricultural pressures tree cover is largely restricted to small groups of trees and a scattering of trees along boundaries and around village margins, often creating quite intimate rural scenes. Elsewhere the landscape is generally more open, but even here more distant views are typically framed by surrounding hills, or rising ground.

Land use

Although it has a largely pastoral character today, dominated by stock rearing and dairying, historically this landscape once had a more mixed farming character. Dewponds which provided a source of water are a relatively common historical feature.

A significant amount of lead mining has taken place, particularly in the areas in the northern and eastern parts of the plateau, and in places historic mining features are extensive, for example around Miller's Dale, Monsal Dale and Upper Town. Small scale limestone quarries and limekilns are also found in this landscape type.

Enclosure

The farmed landscape is characterised by a sub-regular pattern of small to medium sized fields enclosed by drystone walls built out of the local pale coloured limestone. Large areas of narrow fields exist in many places, reflecting piecemeal enclosure of strips in the former open fields from late medieval times onwards. Field pattern tends to be a prominent element in this landscape, creating a strong sense of scale and visual unity.

Settlement, buildings and monuments

The present settlement pattern is long established within this landscape, with origins before the Norman Conquest, and tends to be strongly nucleated, with most farmsteads and dwellings concentrated into a central village within each parish, reflecting historic townships. Some deserted medieval settlement and field systems are present in this area. Today's buildings, with the exception of some medieval churches, date mostly from the 17th century onwards. These buildings are typically constructed from the local Carboniferous limestone, often with random rubble constructed walls and stone tile or Welsh slate roofs. This creates a very distinctive and unified settlement character. The use of gritstone is also common, but tends to be restricted to features such as lintels and window surrounds.

Transport, access and recreation

In this landscape there is often a network of narrow lanes defined by stone walls. The lanes were originally created to give access to the former open fields and commons and other villages beyond, while the walls were added later when the open fields were enclosed. Today these lanes are linked by a network of tracks and field footpaths, generally enabling good access throughout this landscape.

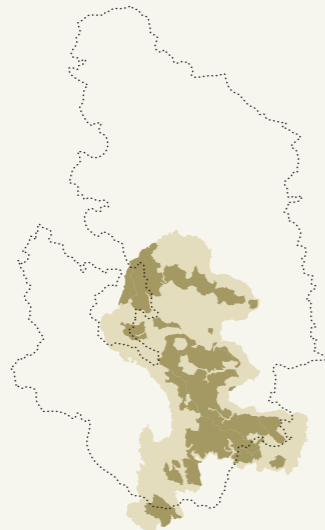
Limestone plateau pastures LCT



Field barn on the Limestone Plateau © Peak District National Park Authority

An upland pastoral landscape with a regular pattern of straight roads and small to medium sized rectangular fields bounded by limestone walls. Tree cover is mostly limited to occasional tree groups, or small shelter belts, allowing wide views to the surrounding higher ground.

The Limestone Plateau Pastures is a planned agricultural landscape, derived from the enclosure of former commons around and beyond the older settled core of the village farmlands. The largest area of this landscape occurs in the central part of the limestone plateau from Flagg to Bonsall Moor. Another large area occurs to the north from Fairfield to Calver, and there are several smaller areas, such as Calton Moor to the south.



Key characteristics

- A rolling upland plateau of pastoral farmland enclosed by limestone walls with open views to surrounding higher ground
- A regular pattern of small to medium sized rectangular fields with discrete small tree groups and shelter belts
- Isolated stone farmsteads and field barns
- Localised field dewponds and farm limekilns, medieval granges surrounded by older fields, relict lead mining and quarrying remains and prehistoric monuments, often on hilltops

Geology, landform and soils

Like the Limestone Village Farmlands, this landscape is mostly associated with the more gently rolling central and eastern parts of the limestone plateau. Much of this area is overlain by wind blown drift and has shallow free-draining soils.

Species and habitats

The shallow free-draining soils which characterise the main part of the limestone plateau were reserved as common land and utilised as rough grazing until relatively recent times. However, much of this land was enclosed in the 18th and 19th centuries, when it was ploughed and reseeded to improve the pasture. Today, only small relics of unimproved grassland survive, in areas where the ground is unsuitable for cultivation, such as along lead rakes and on the more exposed crests close to rock outcrops, where the soils are particularly thin.

Tree cover

For the most part the Limestone Plateau Pastures have a fairly open character due to agricultural practices where tree cover is largely restricted to discrete groups of trees, often around farmsteads. In places, larger coverts and occasional belts of sycamore, beech or ash trees, often planted on abandoned lead rakes, provide a stronger sense of enclosure. These linear or rectangular shelter belts are a distinctive feature of the White Peak landscape.

Land use

In relation to the surrounding upland landscapes in the Peak District, this is an intensively farmed agricultural landscape where stock rearing and dairying are the primary land uses. Two types of historical feature that are relatively common are dewponds and field limekilns. Large amounts of lead mining have also taken place in the past, particularly in the northern and eastern parts of the plateau, and historic features are still extensive in places for example north of Monyash and south of Winster. The landscapes around Dove Holes and Peak Forest are exceptional for the large number of early industrial limekilns and shallow quarries, dating from the 17th to the early 19th centuries.

Enclosure

Enclosure is characterised by small to medium sized fields defined by stone walls. The straight boundaries and regular enclosure pattern are strong and very distinct features of this landscape, reflecting the relatively late enclosure from common and waste. Many of the enclosures were the result of later 18th and earlier 19th century Parliamentary Enclosure Awards, others were enclosed by private agreement. There are also other areas, such as between Meadow Place Grange and One Ash Grange, where there is significantly earlier sub-rectangular and irregular enclosure associated with medieval monastic granges.

Settlement, buildings and monuments

This is a landscape of isolated stone farmsteads and scattered stone field barns, mostly dating from the period of Parliamentary Enclosure in the late 18th and earlier 19th centuries. There are also medieval granges, although today's buildings are mostly later rebuilds from the 17th century onwards. This area contains concentrations of prehistoric monuments including the henges at Arbor Low and the Bull Ring, Neolithic chambered tombs and prominent hilltop Bronze Age round barrows. Prehistoric activity is also evidenced through flint scatters in the ploughsoil, and field systems and some earthworks of the Romano-British period, as at Roystone Grange.

Transport, access and recreation

This is a planned landscape, with a pattern of straight roads defined by stone walls, reflecting the late enclosure of the land from common and waste. Some roads were created as turnpike routes. Occasional tracks and field footpaths are also present in places. The High Peak Trail, formerly the Cromford and High Peak Railway, crosses the central part of this landscape character type. Dramatic stone-built embankments form some of the area's most striking landscape features.

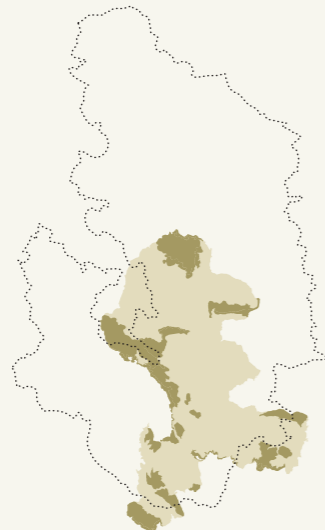
Limestone hills & slopes LCT



Chrome Hill © Peak District National Park Authority

A high pastoral landscape with a varied undulating topography and some steep slopes. This is a remote, sparsely populated landscape with a regular pattern of mostly medium to large walled fields, interspersed in places with extensive patches of rough ground and elsewhere by smaller regular fields. There are wide open views to distant skylines, especially around the edges of the White Peak.

The Limestone Hills & Slopes is a visually prominent landscape which, where high, can be seen from most places within the White Peak. In other places it forms the steep edges to the plateau and can be seen from extensive adjacent areas of shale valley and gritstone upland. It occurs in a series of discrete units around the northern, western and southern edge of the White Peak and in two smaller outlying areas at Longstone Moor and South Darley.



Key characteristics

- High, undulating, and in places steeply sloping topography with frequent rock outcrops on steeper ground
- Rich wildlife habitats including large patches of limestone grassland and limestone heath on the highest ground
- A regular pattern of medium to large walled fields with occasional groups and belts of trees
- Prehistoric monuments, often on hilltops and exceptional relict lead mining landscapes
- Wide, iconic open views to distant skylines

Geology, landform and soils

The underlying Carboniferous limestone strongly influences the nature of the landform in the Limestone Hills & Slopes, creating a high, in places steeply sloping topography and allowing wide views to distant skylines. This landscape forms the most elevated part of the White Peak, rising to over 470 metres at Bradwell Moor. The limestone bedrock is hard and slowly eroded, giving rise to a moderately undulating landform with numerous hill summits and many patches of exposed rock. Distinctive tors are found in the areas of dolomitic limestone. Where reef limestone predominates, landform is commonly one of discrete, steep hills rising above the surrounding land.

Soils are variable with generally thin, often stony soils associated with limestone outcrops, peaty soils on the highest, leached ground, and patches of deeper soils elsewhere.

Species and habitats

Of special importance are the relatively rare remaining areas of limestone heath, largely consisting of heather, with bilberry and western gorse, associated with poorer soils developed on acidic wind blown silt. On hilltops and steep slopes a mosaic of semi-natural vegetation can be found including patches of both calcareous and acid grassland. Where grazing no longer takes place, localised patches of gorse, bracken and scrub are found. Elsewhere improved grassland dominates over deeper soils with isolated hay meadows and unimproved pastures.

Tree cover

Tree cover is relatively limited in this open landscape. In some places, away from grazing pressures, areas of scrub can be found and in more sheltered areas with deeper soils, there are small plantations and tree groups associated with farmsteads.

Land use

For the most part this is a pastoral landscape with improved grassland and localised hay meadows. In places, notably on the steeper slopes and higher summits, large tracts of rough grazing land have survived.

A significant amount of lead mining has taken place, particularly in the northern and eastern areas, often following linear rakes; in many places these features are extensive and well preserved. This landscape has also been heavily influenced in places by quarrying, with large active quarries near Buxton and above Hope. Grin Hill near Buxton is exceptional for its large number of early industrial limekilns and shallow quarries which date from the 17th century to the early 19th century.

Enclosure

Predominantly medium to large sized fields are defined by stone walls. In places, the topography defines the enclosure pattern. The straight boundaries and regular enclosure pattern reflect the late enclosure of this landscape from common and waste in the late 18th and early 19th centuries. Many of the enclosures were the result of Parliamentary Enclosure Awards; some areas were enclosed by private agreement. Unusually, parts of the Castleton commons around Dirlow Rake were enclosed using long ruler- straight boundaries as early as 1691. There are also other areas, such as around Cronkstone and Cotesfield Granges, where there is significantly earlier sub-rectangular and irregular enclosure associated with medieval monastic granges. In several places well-preserved field systems of Romano-British date underlie the medieval and later agricultural landscape.

Settlement, buildings and monuments
This is a sparsely settled landscape with only occasional, large, isolated stone farmsteads, many of which were first established in the 18th or 19th centuries. Some areas contain higher concentrations of outfarms and field barns. The higher parts of the limestone plateau are also characterised by a scattering of older medieval granges, although today's buildings are later rebuilds, dating from the 17th century onwards.

There is a large number of surviving prehistoric monuments, particularly barrows, which are often prominently sited on the highest hilltops. Flint scatters within ploughsoils show concentrations of prehistoric activity. The copper mines at Ecton have been worked from the Bronze Age period onwards.

Transport, access and recreation
There are fewer roads in this sparsely settled landscape than across much of the limestone plateau, leaving large areas that are only accessible by foot. Most of the roads are straight and defined by stone walls, reflecting the late enclosure from common and waste; others are determined by the topography and some cut across areas of unenclosed land. Some of these roads were created as turnpikes.

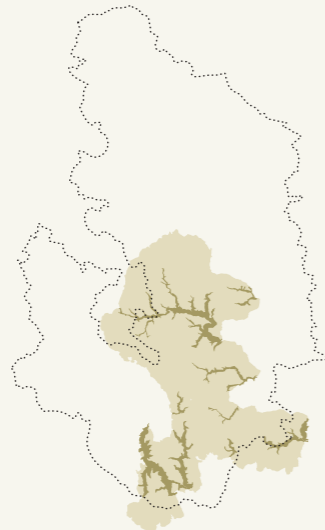
Limestone dales LCT



Peter's Stone, Cressbrook Dale © Peak District National Park Authority

A steeply sloping dale landscape with limestone outcrops and extensive tracts of woodland and scrub intermixed with limestone grassland. In some smaller dales this is an intimate, secluded landscape where views are tightly controlled by landform and tree cover, in others the dales are wild and open. By contrast, the northern dales contain extensive historic mineral workings, transport routes and water-powered industries.

The Limestone Dales is a distinctive, but localised landscape type. Because of the way in which they are deeply cut into the limestone, they are more or less hidden from view from within the adjoining plateau landscapes. The rivers Wye, Dove, Manifold, Hamps, Lathkill and Derwent flow through well-developed dale landscapes. There are also a number of associated smaller, outlying dry valley dales.



Key characteristics

- Steep sided limestone dales with craggy outcrops, cliffs and scree slopes
- Extensive patches of limestone grassland forming a landscape mosaic with interlocking blocks of ancient semi-natural woodland, secondary woodland and scrub
- Largely unsettled, apart from occasional small mill settlements
- Historic mineral working (quarrying, lead mining) and use of water power

Geology, landform and soils

This is a landscape with a prominent topography, characterised by steeply sloping, in places vertical, valley sides cut deeply into the underlying limestone bedrock. Many of the dalesides have frequent outcrops of greyish white limestone, sometimes forming precipitous rock buttresses with scree slopes. Most of the larger dales have fast moving rivers flowing within rocky channels. The smaller dales tend either to be dry, or have only winterbourne streams, as much summer rainfall percolates through to the bedrock.

The limestone is overlain by very shallow, in places strongly calcareous, upland soils. These soils are thinnest on the steeper rocky slopes and deeper along the valley floor.

Species and habitats

Extensive areas of unimproved limestone grassland are a feature of this landscape, the grasses being characterised by fine-leaved fescues and quaking grass, along with many small herbs like common rockrose and wild thyme.

The abundance of early purple orchids and cowslips in the spring is a striking feature of many dale sides. Where grazing is restricted, the grasslands are commonly mixed with other semi-natural habitats such as deciduous woodland and scrub. Of particular note are the daleside ash woods, dominated by ash, but also including oak, hazel and wych elm.

Tree cover

Tree and scrub cover is a key feature of the landscape mosaic of the dales. Some dalesides, like those in the Wye and Manifold valleys, are extensively wooded with large tracts of semi-natural woodland dominated by ash and hazel. Deciduous plantations also occur in some dales. In other dales, woodland cover is more sporadic and tends to be associated with scrub dominated by hawthorn. Overall the woodland cover, coupled with the steep valley sides, can create a strong sense of visual containment.

Land use

As the slopes in the dales are too steep for agricultural improvement, this landscape still retains extensive areas of unimproved grassland and semi-natural woodland, with the former used mainly for rough grazing by sheep.

Enclosure

This is essentially an unenclosed landscape, although the valleys are subdivided, by occasional drystone walls, into large enclosures related to land ownership and woodland management.

Settlement, buildings and monuments Human habitation is not a feature of this landscape owing to the topographical inaccessibility of the limestone dales, although prehistoric activity is attested by lithic scatters, and archaeological cave deposits. In parts of the Wye Valley, Lathkill Dale, Monsal Dale and the Via Gellia the remains of past lead mining and quarrying are important features.

The importance of historic limestone working and the production of lime products is particularly clear in Miller's Dale, and impressive industrial limekilns in the valley demonstrate the critical role of the railway in this industry. The harnessing of water power has left traces such as weirs, mill ponds and channels, including large scale mills such as Cressbrook and Litton and smaller-scale workings such as the corn mill at Wetton Mill, Ashford Bobbin Mill and the lead processing and other mills in the Via Gellia.

While relatively unsettled today, traces of medieval settlement and field systems are found in some dales, sometimes focussed upon the sites of medieval granges.

Transport, access and recreation Roads are generally not a feature of this landscape, except where the dale is used as an access route into the White Peak, such as in the Wye valley east of Buxton, at Middleton Dale, Millers Dale and the Via Gellia. These are usually late 17th to early 19th century turnpike roads. Elsewhere access is by foot, often by way of a well defined path along the valley bottom. Some dales were affected by the mid-19th century construction of railways, although some routes are no longer in use and form popular walking routes such as the Monsal Trail. The Monsal Head railway viaduct now forms one of the most iconic views in the National Park.