Survival

This section will briefly discuss the survival of the character type within the project. The map below shows the extent of strip fields at the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63). Since 1850, 31,990 hectares have been lost. However by analysing the amount of boundary loss we can look at the amount of change since first edition six-inch County Series Ordnance Survey mapping (1846-63).

1,923 hectares have seen no boundary change since the first edition six-inch County Series Ordnance Survey mapping (1846-63), with 9,750 hectares seeing less than 30% boundary loss. 6617 hectares have lost between 31 and 60% of their boundaries since 1850, while 1,352 hectares have since a much higher degree of boundary loss, between 61 and 90%. The field systems with the higher levels of boundary loss show a bias towards the eastern side of the project area, particularly in the vale of Pickering and the Vale of Mowbray.
Key statistics

The vast majority of the strip field systems within the project have medium sized fields. However a third of the strip fields recorded are small, less than two hectares in size.

As part of this study, a small pilot area was looked at to determine the distribution of enclosed strip fields in relation to settlement. This involved looking at a number of settlements in the environs of Ripon and using the GIS software to establish a buffer of half a kilometre around the settlements. Out of 198 strip field systems within this area, 136 lay within half a kilometre of a settlement, and 182 within a kilometre. This type of analysis is important in two ways. The first is that it helps us understand better the relationship between settlement patterns and field systems within the Ripon area. This lies within Roberts and Wrathmell’s CHUTE sub province and supports the relationship between settlements and enclosed strip fields recorded by them. Due to their position in such close vicinity to the villages in this area, and the aspirational drive for rural life in the late 21st century an understanding about the complex, and close relationship between settlement and these fields with their origin in the medieval period is necessary. This will allow effective development management to enhance the character and relationships characterised here.

110 Roberts and Wrathmell 2000; 46
4.1.4 Open fields

Description

Following on from a discussion of enclosed strip fields within the project, it is necessary to summarise the results for open fields. Open fields, as their name suggests, consist of large open enclosures divided up into furlongs, in turn separated into strips. The key difference between enclosed strip fields and open fields, is the presence of internal divisions between the enclosed strip fields. 27 possible open fields have been recorded within the project.

Distribution map

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Figure 25 Distribution of open fields

Survival

Open fields have a very limited distribution within the project, been confined to very specific locations. There are none within the central part of the project area; the Humberhead Levels, Vales of York and Mowbray, the North York Moors or the Howardian Hills. The highest concentration is in the peripheral areas of the Yorkshire Dales.

Open fields have normally been recorded as the previous historic character where there is supporting evidence, for example in field name evidence. This can normally be seen on the first edition six-inch County Series Ordnance Survey mapping (1846-63) where a place name of ‘Field’ runs across several enclosures.
This can be seen with record number HNY 4710, where the previous character is defined by the open field. As we can see in figure 26 below, by reference to the first edition six-inch County Series Ordnance Survey mapping (1846-63) this area is shown as ‘North Field’ giving a strong evidential case that it was previously open field in character.

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Figure 26  Image showing area known as north field indicating that prior to its current character as enclosed strip fields it was an area of open field agriculture.

Key Statistics

Out of 27 areas identified, nine have complete legibility while fourteen have significant legibility. This may reflect the fact that to be identified as open fields suggests very little change, and the enclosure of the strips would lead them to be characterised as enclosed strip fields.
4.1.5 Piecemeal enclosure

Description

In the early post-medieval period (approximately AD 1540 to 1750) the character of enclosure throughout the study area seems to change. In contrast to the open fields we see smaller scale, less organised enclosure which seems to be less formalised and has no planned layout. They can often be accretive, with field patterns being expanded as new areas are added to the fieldscape. These seem to date before the extremely regular pattern of the planned enclosure, which comes later in the post-medieval period. The field systems also contrast with the more structured field patterns from the medieval period. The boundaries vary in character reflecting the cumulative process by which these field systems were created. Over half (1,183) of the field systems which have been characterised have an irregular field pattern, with 788 having a semi irregular field pattern. As with many of the field patterns identified in this project, the character of the boundaries responds to local conditions.

Distribution map

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Figure 27 Distribution of piecemeal enclosure.

Survival

Piecemeal enclosure is found across a much larger area of the project. 79,320 hectares have seen less than 30% boundary loss since the first edition six-inch County Series Ordnance Survey mapping (1846-63). The survival is better in the upland areas and the Craven District with more field systems with less than 30% boundary loss since the first edition six-inch County Series Ordnance Survey mapping (1846-63), approximately 44900 hectares. There are areas which have seen greater than 60% boundary loss. These are spread throughout the project area;
however this does seem to be more common around the eastern side of the Vale of Mowbray.

**Key statistics**

Over the whole project area piecemeal enclosure covers an area of 131,676 hectares. This accounts for 14% of the project area.
4.1.6 Intake

Description

Intake refers to a very specific type of enclosure which tends to be found in the more moorland environments. Richard Muir in his *Landscape Encyclopaedia* defines intake as "land enclosed from common, usually from its margins, and often without the consent of other parties concerned"\(^{111}\). Intakes have been defined in a number of ways, firstly through the form of the fields, normally with a very well-defined coherent external boundary and secondly through place name evidence. Intake can also be ‘overtaken’ by later enclosure, and exist as islands within later parliamentary enclosure. Intake has a very specific distribution almost totally limited to the upland areas of the project.

Distribution map

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*Figure 28  Distribution of intake*

Survival

The intakes within the project area are extremely well preserved, (see key statistics below). Whether this is a result of their position in upland areas, which tend to be more pastoral and not is affected by the mid 20th century movement towards larger fields, or whether it is a result of most of the areas of intake being located within areas of the project protected since the 1950s, is unclear. 153 (35%) of the areas of intake have a curvilinear external boundary. This may reflect the way in which land was taken in from common land and unenclosed land.

\(^{111}\)Muir 2004: 136
Key Statistics

Out of 433 areas identified as being intake 344 have less than 30% boundary loss, 204 (46%) intakes have seen no boundary change at all since the first edition six-inch County Series Ordnance Survey mapping (1846-63), with 89 (20%) having less than ten percent boundary loss.
4.1.7 Assart

Description

The term assarting is used in a very specific way in the project, and refers to enclosure which has been created by the intake of woodland. In some contexts it is used as a general term for intake, however the two terms are used separately here to differentiate between the different form, context and motivation.

Assart normally has a close relationship with woodland, sometimes with irregular or curved boundaries reflecting the individual events of enclosure which are normally accretive. However the woodland may, itself, no longer be visible within the current landscape. In these cases an area of assarting has been identified from reference to the historical mapping sources to gain clarity in current evidence.

Distribution map

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Figure 29 Distribution of assarting within the project.

Survival

The survival of assarts is good but fairly limited in terms of geographical distribution. It may be that due to woodland loss some of the assart within the county has gone unrecognised and has been characterised as piecemeal enclosure.

The records show that a number of areas characterised as assart at the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63), are returning to woodland with modern plantation occurring in the same locations. This reflects changes in land management and the role of woodland in society.
The most concentrated area of recognisable assarting is in the Nidderdale Area of Outstanding Natural Beauty. To set the assarting more within its landscape context the distribution was analysed in relation to ancient woodland.

![Map showing the relationship between assart and ancient woodland](image)

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**Figure 30**    *Showing the relationship between assart and ancient woodland*

Also See Plate 11

**Key statistics**

Out of 68 areas of assarting recorded within the study 28 have seen no boundary change since the first edition six-inch County Series Ordnance Survey mapping (1846-63), with another 34 seeing less than 30% boundary loss.

Most of the areas of assarting have been characterised as dating between the medieval period and AD 1750. This is to reflect the fact that assarting, or the enclosure of woodland in its purest definition, isn’t just a medieval phenomenon and may well have continued into the post-medieval period.
4.1.8 Cow pasture and stinted pasture

Description

While a large amount of the enclosed land within the project area is pasture, in terms of ground cover, within the project the use of pasture as a character type has a very specific meaning. This refers to areas, particularly found in the uplands of the project area, which are stinted pasture described by Richard Muir as an area of common where “…the grazing was reserved for farmers (‘gate holders’) who had specific rights to pasture a given number of animals”\(^{112}\). The pasture was normally managed in a system of transhumance with the use of the pasture on the dale sides and valley floor used for overwintering\(^{113}\).

The basic unit for administering the gates was the sheep with the price for other animals set as a multiple of these, for example one cow equalled five sheep gates.

Technically, cow pasture is also stinted pasture, however the difference is cow pasture was set aside for milk cattle whereas many different types of livestock would be grazed on stinted pasture\(^ {114}\).

During the project, these enclosure types were normally identified through place name evidence with a ‘pasture’ name indicating stinted pasture, particularly in the uplands of the Yorkshire Dales and Nidderdale. Similarly, cow pasture was used to record the historic character where the place name was identified through map analysis.

Distribution map

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Figure 31 Distribution of cow pastures and stinted pastures

\(^{112}\) Muir 2004:238
\(^{113}\) Dave Hooley Pers. Comm
\(^{114}\) Muir 2004.: 51
Survival

As can be seen from the distribution map above pasture and cow pasture does not occur at all in the centre of the county, and is mainly limited to the uplands of the study. Because of the fact that this character type mainly drew on place name evidence due to the difficulty of distinguishing it from the upland unenclosed land it maybe that the full extent of stinted pasture has not been recognised. Out of 78 areas identified 51 had no boundary change since the first edition six-inch County Series Ordnance Survey mapping (1846-63) which is one of the highest rates of survival in the project, while nine had less than 30% boundary loss.

The surviving areas of stinted pasture within the project range in size from two hectares up to over 600 hectares. This can reflect the changes in enclosure in the surrounding landscape which has led to the survival of small areas.

If we look at just the cow pastures recognised during the digitisation phase the distribution is even more limited, with only two out of the fourteen lying outside the Yorkshire Dales and Nidderdale.

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Figure 32  Distribution of cow pastures within the project area

Key statistics

The character of these areas is extremely well preserved. Out of 78 identified 51 (65%) have seen no boundary change since the mid 19th century with 9 (11%) seeing less than ten percent boundary change (either boundary loss or creation) since AD 1850. 53 (67%) are defined by dry stone walls with 46 (58%) having regular external boundaries.
4.1.9 Crofts associated with settlement

Description

There are a large number of settlements within the project area which have their origin in the medieval period, and while the physical character of the village or town is now post medieval there are many traces of earlier activity within the surrounding landscape. One of the most significant is the presence of enclosures which are associated with the property boundaries within the settlement or town. These display some of the characteristics which are visible with enclosed strip fields (a large number have s curved boundaries). The main distinction is the relationship with the villages and towns they can be found associated with. 82% of the areas of crofts identified are made up of small enclosures, with 69% defined by overgrown hedges.

Distribution map

Figure 33  Distribution of crofts associated with settlements

Survival

There is a good rate of survival of the crofts, although these tend to be affected by further development and infilling. 17 areas have complete legibility with 96 having significant legibility, see Chart 6. An excellent example of these can be seen at Brompton (SE 379964) which are extremely well defined, with only a small amount of boundary loss since the first edition six-inch County Series Ordnance Survey mapping (1846-63). These are medieval in character and are associated with properties in the linear part of Brompton (SE 3796), with the back of these enclosures defined by the Stokesley Road (the A684).
Key statistics

Chart 6 shows the legibility of Crofts associated with settlement, while Chart 7 records the internal boundary types of the crofts. The predominant boundary type is shown to be that of overgrown hedgerows, followed by hedgerows and dry stone walls. Fences and ditches are very rarely used for this character type.
4.2 Unenclosed land

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unenclosed land</td>
<td>Commonland (upland)</td>
</tr>
<tr>
<td></td>
<td>Commonland (lowland)</td>
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<tr>
<td></td>
<td>Freehold moorland</td>
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<tr>
<td></td>
<td>Greens</td>
</tr>
<tr>
<td></td>
<td>Reverted moorland</td>
</tr>
<tr>
<td></td>
<td>Moorland</td>
</tr>
</tbody>
</table>

Table 3 HLC types within the unenclosed land broad type

Description

There are large areas of the North Yorkshire landscape which can be described as unenclosed land. From the moors of the Yorkshire Dales to The Stray in Harrogate, there are many open areas of the landscape. Many, at first glance, appear to be natural. However, all are shaped by human activity. Even in the extensive areas of moorland, there are traces of extraction which are too dispersed to be characterised on their own terms. Many are now managed as shooting areas largely for red grouse. If it has been possible to identify the character of the unenclosed land, such as common land, this has been recorded in the database.

Distribution

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Figure 34 Distribution of unenclosed land broad type within the project area
From Figure 34, it can be seen that unenclosed land is situated mainly in the North York Moors National Park to the east, and in the Yorkshire Dales National Park, Nidderdale AONB and Craven District to the west.

**Survival**

Unenclosed land forms a large percentage of the landscape within the project area. Of 111,200 hectares of unenclosed land within the project area, 105,000 hectares is located within either a National Park or Area of Outstanding Natural Beauty. These consist of moorland (including freehold moorland) as well as common land. Unenclosed land does occur in lowland locations as well, for example Harrogate Stray (SE 301550).

There are also a number of areas which have been identified as greens within the project. Village greens tend to be smaller and help define the historic character of the settlements in which they are found, however there are a number of large areas of unenclosed land which can be defined as greens distinct from the settlements in which they are found, for example the strays in York, which form a number of the city’s green wedges (ECUS 2000).

**Key statistics**

Unenclosed land tends to comprise the larger polygons within the HLC project GIS. These can sometimes total thousands of hectares in extent.

From Chart 8, it can be seen that of the categories of legibility for this broad type, significant legibility is the highest, followed by complete, partial, fragmentary and invisible.

From Chart 9, it can be seen that of the character of the ground cover of the unenclosed land, the greatest percentage is heather, closely followed by rough grassland. Managed grassland and woodland are the two lowest categories.

Chart 10 shows that where this can be identified, and in the majority of cases it could not, the modern management regime for unenclosed land is mainly grouse moor, followed by nature reserve, peat cutting and military use.

Chart 11 shows that the dominant dispersed industry of unenclosed land with the project area, where this can be identified and in the majority of cases it could not, is sandstone quarrying, followed by lead mining and coal mining. There are a wide range of other dispersed industries, including limestone, ironstone and jet quarrying, for example.
4.3 Woodland

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland</td>
<td>Wood pasture</td>
</tr>
<tr>
<td></td>
<td>Mixed plantation</td>
</tr>
<tr>
<td></td>
<td>Orchard</td>
</tr>
<tr>
<td></td>
<td>Coniferous plantation</td>
</tr>
<tr>
<td></td>
<td>Ancient and semi-natural woodland (asnw)</td>
</tr>
<tr>
<td></td>
<td>Ancient and semi-natural woodland (restocked)</td>
</tr>
<tr>
<td></td>
<td>Broad-leaved plantation</td>
</tr>
<tr>
<td></td>
<td>Wet woodland</td>
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<tr>
<td></td>
<td>Spring wood</td>
</tr>
<tr>
<td></td>
<td>Covert</td>
</tr>
<tr>
<td></td>
<td>Ornamental plantation</td>
</tr>
</tbody>
</table>

Table 4  HLC types within the woodland broad type

Distribution map

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Figure 35  Distribution of woodland in the project area

Description

It is very easy to dismiss woodland as a natural feature and lying outside of the remit of the study of historic landscape, however all woodland is a result of conscious management, sometimes continuing over several hundred years.
In addition to the ancient woodland which has been mapped there are also extensive areas within the project where the historic character is a result of large scale commercial woodland management, for example the large scale coniferous plantations in the North Yorks Moors National Park.

HLC has used several data sources to define the extent of woodland. The starting point, as with all the HLC types has been the MasterMap data. Other very specific data sources have also played a role, particularly the ancient woodland inventory data available from Natural England\textsuperscript{115}. This has been used in combination with the first edition six-inch County Series Ordnance Survey mapping (1846-63) and second edition six-inch County Series Ordnance Survey mapping (1889-99) to establish the date and extent of the woodland. Where possible the Millennium vertical aerial photos, held by North Yorkshire County Council, City of York Authority and Tees Archaeology were also utilised.

To be classed as woodland as part of the HLC project an area had to be over two hectares and display fairly dense woodland cover.

**Survival**

The character of the woodland varies considerably across the project; the development of large scale forestry in the 20th century has changed the character of woodland across the county. This is particularly noticeable in the uplands of the project area, and represents significant changes to the relationship with the landscape; both in terms of the way it is managed and experienced. However it is not a simple picture, where all coniferous plantations are modern. There are 144 areas which have been characterised as coniferous plantation which were in the landscape by 1901, for example SE 66124682 and SE 47099020. Some of these are associated with the abandonment of extraction sites, others with changes in woodland management practices.

The ancient woodland inventory mapped the woodland from the AD 1920s Ordnance Survey mapping. The HLC has been able to establish the current extent of ancient woodland. For example at grid reference SE 40665967 the ancient woodland has been significantly affected by 20th-century aggregate quarrying.

It has also helped us gain a better understanding of its landscape context which may have contributed to its survival. For example at grid reference SE 292678 the ancient woodland seems to sit within the designed landscape of Markenfield Hall which has almost certainly contributed to its character in the current landscape.

In other areas we have seen an expansion of ancient woodland with modern plantation (whether broad-leaved or coniferous). This can sometimes be easy to separate out, for example at SE 281633. In other parts of the landscape it is more difficult to tease out the historic events from each other. For example the ancient and semi-natural woodland at SE 29696345 has seen about 50% expansion since the first edition six-inch County Series Ordnance Survey mapping (1846-63) but this has not been as straightforward as a creation of adjacent plantation, with the new woodland becoming more embedded with the ancient woodland. This highlights

\textsuperscript{115} \url{http://www.english-nature.org.uk/pubs/gis/gis_register.asp}
areas where the HLC can contribute to a more detailed understanding of the cultural and historic aspects of the ancient woodland inventory.

**Key statistics**

Chart 12 shows the legibility of the woodland in the project, the majority of which is evenly distributed between both significant and fragmentary legibility, followed by partial and complete legibility, also evenly distributed. Woodland areas with Invisible legibility represent the least number.

It can be seen from Chart 13 showing the proportion of woodland by hectarage, that the largest areas are covered by coniferous woodland, followed by broad-leaved plantation and mixed plantation. The area covered by ancient semi-natural woodland (restocked) covers the next largest area, and this is larger than the ancient semi-natural woodland which has not been restocked. Much smaller areas are covered by woodland identified as spring wood, covert and wood pasture.

**Ancient Semi-Natural Woodland**

**Description**

The definition of ancient semi-natural woodland used in the project is derived from the ancient woodland inventory. This is an area which has had continuous woodland cover since before AD 1600 and may be:

“Ancient woodland sites that have retained the native tree and shrub cover that has not been planted, although it may have been managed by coppicing or felling and allowed to regenerate naturally”\(^{116}\).

The ancient woodland inventory only digitised woodland which was over two hectares on the AD 1920s mapping. Two hectares has also been the lower cut off point for digitising areas within the HLC project making the ancient woodland inventory an excellent resource to utilise. What we have aimed to do is confirm the definition of ancient and semi-natural woodland, confirm its current extent and track the change since the first edition six-inch County Series Ordnance Survey mapping (1846-63). This provides an excellent dataset which can be used by natural environment colleagues to confirm the modern extent of these environments.

The character of ancient and semi-natural woodland within the county has changed since AD 1600, moving into different frames of reference over the intervening 400 years. For example woodland that would have been seen as a resource is now viewed within a heritage and biodiversity management context.

\(^{116}\) http://www.english-nature.org.uk/pubs/gis/tech_aw.htm
Survival

By implication the presence of ancient and semi-natural woodland suggests good survival. Ancient and semi-natural woodland is extremely well represented within the landscape and has seen very little change since the first edition six-inch County Series Ordnance Survey mapping (1846-63). There are, visible from the mapping above some clear distributions with concentrations on the eastern sides of the North York Moors and the Nidderdale AONB.

Key statistics

There are 413 areas of ancient and semi-natural woodland that have been identified within the project, totalling an area of 6,162 hectares. This means that the areas of ancient and semi-natural woodland tend to be fairly small, an average of 14 hectares. 45% of the ancient semi-natural woodland within the project lies within the North York Moors National Park, covering 2,830 hectares. There are a few in the Yorkshire Dales National Park, with only 30 identified as part of the project. 145 of the ancient and semi-natural woodland lie outside the National Parks and AONBs, and cover an area of 1,971 hectares. All these figures must come with the caveat that the project has only recorded woodland which is over two hectares in size and it is likely that there are pockets of ancient semi-natural woodland which are smaller than this, and therefore fall outside the project’s remit.

An excellent example of ancient semi-natural woodland is Landmoth Wood, which lies to the West of Northallerton (SE 4292), see Plate 12.
Landmoth Wood contains both ancient and semi-natural woodland and post-medieval broad-leaved plantation. The ancient and semi-natural woodland occurs in two blocks within the wider woodland, as can be seen below.

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Figure 37  Landmoth Wood

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Figure 38  Landmoth Wood at the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63)

As can be seen by looking at the historic Ordnance Survey Mapping above there has been very little change in the physical character, at a landscape scale, since the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63).
One of the highest concentrations of ancient and semi-natural woodland is within the Nidderdale AONB. With 768 hectares of ancient semi-natural woodland in 40 locations it accounts for 1.28 percent of the AONB’s landscape. This compares with 0.68 percent over the whole project area. There is a particular concentration around the Guisecliff area with around 180 hectares of ancient and semi-natural woodland in a very small area, see Plate 13.

**Ancient Semi-Natural Woodland (restocked)**

**Description**

Ancient semi-natural woodland (restocked) also uses the ancient woodland inventory as its primary reference. The ancient woodland inventory defines ancient replanted woodland as “ancient woodland sites where the original native tree cover has been felled and replaced by planting, usually with conifers and usually this century” 117.

**Distribution map**

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*Figure 39* The distribution of ancient semi-natural woodland (restocked).

**Survival**

It is difficult to determine the survival of ancient and semi-natural woodland (restocked) because by its very character it is a dynamic feature of the landscape, indicating the change from ancient woodland to more plantation based cover. It is important that it is mapped where possible separately from the plantation woodland

in the project area, as it is a good indication to the previous presence of ancient and semi-natural woodland. There are some definite trends within the distribution of the woodland that can be recognised from the above map. Again there seems to be very little evidence for ancient and semi-natural woodland (restocked) over two hectares in the west of the project. There are clear concentrations around the edge of the Vale of Pickering, particularly in the Howardian Hills to the west, and Tabular Hills to the north, see Plate 14, some of these blocks are very substantial, totalling over 200 hectares in size.

The map below shows the density of ancient and semi-natural woodland (restocked) around Helmsley. Most of this woodland seems to date before the first edition six-inch County Series Ordnance Survey mapping (1846-63), suggesting a date between AD 1600 and 1850 for the restocking of species.

![Map of ancient and semi-natural woodland around Helmsley]

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**Figure 40** The density of ancient and semi-natural woodland (restocked) around Helmsley.

**Key statistics**

Ancient semi-natural woodland (restocked) accounts for 8,889 hectares of the total study area (0.9%) with 340 areas, and an average size of 26 hectares.

**Spring Wood**

**Description**

It is rare to be able to identify a specific historic woodland management system at the scale of this project. We can generally recognise the presence of woodland with different time depth, but to gain an understanding of the utilisation which has maintained that woodland can be problematic. There is one case where we have been able to recognise this within the current landscape. Spring wood is a very specific term which occurs in the north of England and refers to wood which historically has been managed by coppicing. This does not suggest that they are still managed as coppiced woodland; rather it is the management for coppicing which has
created their current historic character. These areas have normally been identified by place name evidence from the modern mapping, see Plate 15. Both coniferous and broad-leaved species are also evident. This does not map all of the historic evidence of coppicing, which may have occurred historically even in many areas of woodland, but does start to pick up the pattern of this woodland management method within the North Yorkshire and Lower Tees Valley HLC.

**Distribution map**

![Distribution map of Spring Wood](image)

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**Figure 41** The distribution of spring wood.

**Survival**

There is a very clear distribution of Spring Wood across the county. 23 out of 35 of the areas identified as spring wood, which are over 2 hectares, lie in the west of the project area. Twelve of the spring woods characterised date before AD 1600 and, of these, nine are in the west of the project area. It is a limited character type and more work is needed to understand which historic management processes have created the current character of woodland in the project area.
Coniferous plantation

Description

Coniferous plantation, within the scope of the project, consists of areas over two hectares in size which are defined by an external boundary and the woodland cover is made up of coniferous species, see Plate 16. To be classed as plantation woodland these date after AD 1600. Coniferous plantation accounts for 19,670 hectares in total, often concentrated in very large plantations covering several hundred hectares. These large areas of managed forestry plantation have a significant contribution to the historic character of the areas in which they can be found, for example in Langstrothdale where the valley is almost completely forested. At the other side of the project area the Cropton Forest covers an area of 3,036 hectares. Most of the coniferous plantation recorded dates to the modern period. 1,556 hectares dates before AD 1850. These tend to be smaller areas of woodland with an average size of 17 hectares. In contrast there are nearly double the numbers of modern coniferous plantations with an average size of 47 hectares. The external boundaries are influenced more on their locality within the project area and reflect wider patterns visible within the field patterns across the study area. There are a small number of coniferous plantations which date between AD 1850 and 1900. These follow the same trends which we can see with the pre AD 1850 coniferous woodland of smaller blocks of plantation.
Distribution map

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Figure 43 The distribution of coniferous plantation

Survival

Coniferous plantation tends to be modern in date and reflect the large scale management of woodland within the landscape.

Key statistics

Chart 14 shows that the dominant legibility type for coniferous plantation is fragmentary followed by partial, invisible, significant and complete.
4.4 Water

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
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<tr>
<td>Water</td>
<td>Natural lake</td>
</tr>
<tr>
<td>Estuary</td>
<td>Reservoir</td>
</tr>
<tr>
<td>Man-made lake</td>
<td></td>
</tr>
</tbody>
</table>

Table 5  HLC types within the water broad type

Description

There are a number of areas characterised by the presence of major water features. These include natural bodies of water such as Malham Tarn (SD 893666) as well as man-made lakes and reservoirs. These mainly consist of large bodies of water that are over two hectares in extent. The man-made water bodies such as Fewston reservoir (SE 184538) have a major impact, not only in terms of the physical changes to the landscape but also in social changes. During construction these reservoirs often acted as focal points for navvy settlements, and in the long term they also created complex social relationships with the urban settlements which they were designed to supply. It has been outside the scope of this HLC project to define the extent of rivers and canals as their own character type.

Distribution

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Figure 44   Distribution of water broad type within the project area
**Survival**

There are several significant areas which have been characterised as water. This is particularly noticeable within the Nidderdale AONB where there is a very high density of reservoirs, dating mainly to the late 19th century. These have had a major impact on the character of the landscape.

While the natural bodies of water may seem to have been more stable within the landscape, this does not appear to be the case. How these water bodies have been utilised and managed has changed greatly over the past 150 years. Many lakes now have a recreational aspect to them, while some, such as Malham Tarn (SD 893666) are now national nature reserves[^118]. The Tees estuary is a modified landscape due partly to the need to dredge regularly.

**Key statistics**

Chart 15 shows that the majority of areas characterised under the broad type of water have invisible legibility, followed by fragmentary and complete.

From Chart 16, it can be seen that of the four water HLC types, reservoir and man-made lake are dominant, followed by natural lake and estuary.

In the majority of cases, the type of leisure use of water areas is not known. However, where it is, as shown in Chart 17, the majority are used for fishing, followed by water sports and bird watching.

[^118]: [www.nationaltrust.org.uk/main/w-malhamtarnmoor](http://www.nationaltrust.org.uk/main/w-malhamtarnmoor)
4.5 Military

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military</td>
<td>Training</td>
</tr>
<tr>
<td></td>
<td>Communications</td>
</tr>
<tr>
<td></td>
<td>Accommodation</td>
</tr>
<tr>
<td></td>
<td>Airfield</td>
</tr>
<tr>
<td></td>
<td>Battery</td>
</tr>
</tbody>
</table>

Table 6  HLC types within the military broad type

Description

Military sites, within the scope of the project, refer to areas with a specific military function, rather than being in military ownership. For example, there are significant areas of the landscape which are owned by the Ministry of Defence which are characterised as field systems. The areas under discussion here tend to be military accommodation, training or communications. Many of the sites will have multi-use functions, for example elements of the Catterick military complex are concerned with both training and accommodation, however the aim has been to define the most dominant.

Distribution

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Figure 45  Distribution of military broad type within the project area
Survival

The military has a long history within the project area, however due to changes which have occurred in the character of the military during the 20th century, there are few areas which date to the post-medieval period. There is a large concentration of military sites around the Catterick Garrison area within the Richmondshire District of North Yorkshire. This is the focus of much of the earlier military activity; however its previous character is planned enclosure.

Key statistics

The majority, eight, of the military sites have fragmentary legibility, as can be seen in Chart 18, whilst four have partial and three significant legibility.

Chart 19 shows that by number of records, the greatest types of military character area are accommodation and communication, followed by training. Chart 20 shows that by hectarage, accommodation is the dominant military character area, followed by communications and training.
4.6 Coastal

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal</td>
<td>Coastal cliffs</td>
</tr>
<tr>
<td></td>
<td>Seafront</td>
</tr>
<tr>
<td></td>
<td>Saltmarsh</td>
</tr>
<tr>
<td></td>
<td>Sands</td>
</tr>
<tr>
<td></td>
<td>Rocky foreshore</td>
</tr>
<tr>
<td></td>
<td>Mudflats</td>
</tr>
<tr>
<td></td>
<td>Coastal slopes</td>
</tr>
<tr>
<td></td>
<td>Boat landing</td>
</tr>
<tr>
<td></td>
<td>Marsh</td>
</tr>
<tr>
<td></td>
<td>Harbour</td>
</tr>
<tr>
<td></td>
<td>Sand dunes</td>
</tr>
</tbody>
</table>

Table 7 HLC types within the coastal broad type

Description

The North Yorkshire coast has an important role to play in the history, economy and leisure of the region. This is reflected in the designation of 50km of the North Yorkshire and Cleveland coast as Heritage Coast\(^{119}\). The significance of this coastline has also been highlighted in the recent work of the Historic Seascapes Characterisation (HSC) project\(^{120}\) and the North Yorkshire Rapid Coastal Zone Assessment (RCZA) project\(^{121}\), this was complimented by the North East Rapid Coastal Zone Assessment (NERCZA) which ran from Whitby to the Tweed\(^{122}\).

The HSC project complements the work of the North Yorkshire and Lower Tees Valley HLC by taking a marine perspective, adding an additional level of detail to our understanding of the coastal landscape. The HSC project has not only been concerned with characterising marine areas, but also taking a marine perspective on the historic landscapes of the landward side of the coast.

The North Yorkshire HLC has characterised the whole coast within the project area, using mean low water as its eastern extent.

The coastal broad type forms a framework to try and understand a complex landscape which is semi-natural in character with evidence of human activity, mostly transitory and small scale, sometimes more permanent. For example, the sands which are found along the coast form essentially semi-natural environments, but sit within a complex and constantly shifting pattern of cultural use. This can be seen in the record for North Bay Sands at Scarborough:

“This is an area of beach at North Bay with one permanent structure which is a sloping concrete sea defence along the sea front. It has significant legibility with the


\(^{120}\) Baker, Tapper, Johns and Herring 2007

\(^{121}\) Buglass and Brigham 2008

\(^{122}\) Tolan-Smith 2008
sea defence being the only change since AD 1850. The sands run alongside the coastal slopes of North Bay and have been used by the public as a tourist facility since the 19th century. Although physically in its natural form it is highly significant in the history of leisure and tourism in this area in the late 19th and early 20th century, which are represented by transient features and events.”

There may be concern that the coastal broad type seems limited in its scope, for example the only two HLC character types considered here that aren’t semi-natural are harbours and seafronts. However, it must be borne in mind that areas within the marine environment fall under other broad types. For example, the docks at Hartlepool (NZ 517338) are an important element of the marine character of the North East. These fall under the industrial broad type. Another example would be the number of towns found along the coast which have an important, but changing, role to play in the marine landscape. For example, Whitby (NZ 897109) has a harbour which falls into the coastal broad type, but the majority of the town, which also has an important role to play in the historic marine landscape character, is recorded under the settlement broad type. A similar situation can be seen with the alum industry, which contributes significantly to the historic character of the coast, but is recorded under the extractive broad type.

During the characterisation of the Filey pilot area, a boat landing was identified and characterised (TA 120809), however this was only 0.54 hectares in extent. Once the wider project methodology was agreed, with a minimum extent threshold of two hectares, this fell below the threshold for characterisation. This meant that further examples of boat landings outside the Filey area will not have been characterised individually, but will have been included in the wider area HLC type in which they are located.

Distribution

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Figure 46 Distribution of coastal broad type within the project area
Survival

This is a fairly dynamic environment which impacts on the historic character of the landscape. For example, the cliffs in the Scarborough area (TA 0486) are prone to erosion, as was seen when the Holbeck Hotel fell into the sea in 1993 as a result of heavy rainfall. Similarly, the historic landscape of Whitby headland has been affected by landslip (NZ 902113). However, large stretches of the coast show a significant amount of time depth and cultural complexity. For example, the Marsh at Seaton Snook (NZ 5228) shows evidence of activity related to salt extraction with a medieval character, see Plate 17.

Four harbours were characterised within the area. Staithes harbour (NZ 783189) has permanent structures represented by the slipway and breakwaters, with partial legibility. It was used initially as a boat landing for fishing boats, then developed into a harbour. There is evidence of continuity here as the HLC records the previous character as a medieval boat landing. Scarborough harbour (TA 048886) by contrast has significant legibility with many of the structures visible evident on the first edition six-inch County Series Ordnance Survey mapping (1846-63). Whitby has two harbours, the Upper and Lower Harbour (NZ 900106 and NZ 900114 respectively) separated by a swing bridge. There have been some changes since AD 1850 including the building of additional wharves and quays.

Two seafronts were characterised as part of the project. The first consists of the sea defences and promenades along the south side of Hartlepool Headland (NZ 527335), and the second is the coastal open space along the shoreline at Seaton Carew (NZ 525300). The Hartlepool seafront has significant legibility with elements of the historic character having their period of origin in the medieval period, however the Seaton Carew coast has a very different character. This appears to be land reclaimed from the foreshore in the inter-war period (1925-1938).

Key statistics

Coastal areas account for 2,610 hectares within the whole project. This accounts for less than 0.3% of the total project area. Sixteen of these areas have complete legibility and 52 have significant legibility. These areas are difficult to assign a date to due to the semi-natural character of these areas.

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123 http://en.wikipedia.org/wiki/Holbeck_Hall_Hotel
### 4.7 Settlement

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settlement</td>
<td>Burgage plots</td>
</tr>
<tr>
<td></td>
<td>Semi-detached housing</td>
</tr>
<tr>
<td></td>
<td>Nucleated village</td>
</tr>
<tr>
<td></td>
<td>Planned estate</td>
</tr>
<tr>
<td></td>
<td>Shrunken medieval village</td>
</tr>
<tr>
<td></td>
<td>Nucleated hamlet</td>
</tr>
<tr>
<td></td>
<td>Low-rise flats</td>
</tr>
<tr>
<td></td>
<td>Private housing estate</td>
</tr>
<tr>
<td></td>
<td>Detached housing</td>
</tr>
<tr>
<td></td>
<td>Grange</td>
</tr>
<tr>
<td></td>
<td>Ring fenced farm</td>
</tr>
<tr>
<td></td>
<td>Elite residence</td>
</tr>
<tr>
<td></td>
<td>Navvy camp</td>
</tr>
<tr>
<td></td>
<td>Green village</td>
</tr>
<tr>
<td></td>
<td>Deserted medieval village</td>
</tr>
<tr>
<td></td>
<td>Vaccary</td>
</tr>
<tr>
<td></td>
<td>Hamlet</td>
</tr>
<tr>
<td></td>
<td>Historic town core</td>
</tr>
<tr>
<td></td>
<td>Single ancient farm</td>
</tr>
<tr>
<td></td>
<td>Squatter settlement</td>
</tr>
<tr>
<td></td>
<td>Ancient settlement</td>
</tr>
<tr>
<td></td>
<td>Terraced housing (with direct street frontage)</td>
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<td>Linear village</td>
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<td>Terraced housing (with front and back garden)</td>
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<td>Bungalows</td>
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<td></td>
<td>High-rise apartments</td>
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<td>Green hamlet</td>
</tr>
<tr>
<td></td>
<td>Villa</td>
</tr>
<tr>
<td></td>
<td>Through terraces</td>
</tr>
</tbody>
</table>

*Table 8*  
HLC types within the settlement broad type
Description

The project area includes many varied types of settlement. From the City of York, to the large urban centres of the Lower Tees Valley and the dispersed villages of the Yorkshire Dales, the term settlement has a wide scope.

In their study published in 2000, Roberts and Wrathmell chronicled the patterns of rural settlement in 19th-century England\textsuperscript{124}. This information was used to define three broad provinces within the country, which were then divided into sub provinces. Several of these sub provinces can be found within the North Yorkshire and Lower Tees Valley HLC project area. These are the Northern Pennines (WPENN), Pennine Slope (CPNSL), Humber-Tees (CHUTE), East Yorkshire (CEYKS)\textsuperscript{125}.

Roberts and Wrathmell’s work forms a starting point to look at broad trends in settlement patterns in the 19th century, and draws out distinctive patterns of settlement distribution in relation to each of the sub provinces. HLC changes the focus slightly and looks at the distribution of settlement within the current landscape to help gain an understanding of the current character and the time depth which has created this.

During the characterisation of the settlement pattern, it has been the aim to record sufficient detail to pick up the historic character, development and form. In areas of large scale settlement, for example Harrogate and York, the project has utilised a tripartite system of characterisation. This has digitised the historic core (as represented by the extent of settlement shown on the first edition six-inch County Series Ordnance Survey mapping (1846-63)), the late post-medieval expansion (as shown on second edition six-inch County Series Ordnance Survey mapping 1889-99) and the modern development (as represented on the modern mapping). Using the tripartite system we have been able to recognise some interesting patterns, particularly enabling us to identify the smaller villages around York, such as Acomb, which have become surrounded by the modern expansion of York.

To reflect the denser settlement pattern in the Lower Tees Valley area, a more detailed methodology was employed which was finer grained in its characterisation, see section 3.4 above. Due to the difference in methodology the following discussion will consider these settlement patterns separately, see section 5.4.

\textsuperscript{124} Roberts and Wrathmell 2000, 1
\textsuperscript{125} Roberts and Wrathmell 2000, 3
Distribution

![Map showing distribution of villages](image)

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**Figure 47   Distribution of villages within the project area**

**Survival**

Many settlements within the project area have a medieval origin. In particular, this can be seen in the planned forms of linear and green villages. A question identified during characterisation was whether these places have a medieval character in their current form? It was determined, however, that the majority of the villages characterised comprise of buildings which date back to the post-medieval period and this stage in their development and form needs to be recognised within the study. To address this, the current character has generally been recorded as post medieval, while the issue of their origin, the creation of the settlement plan, is reflected in the previous character type recorded. Looking at the distribution of settlement across the project area by period of origin, trends can be seen to emerge. Settlement that could be characterised as still having a medieval character is very limited. There is a definite concentration of medieval settlement around the Swaledale area, reflecting the single ancient farms which are found within the valley.

There is a fairly even distribution of post-medieval settlements across the area with no particular concentrations. Out of 826 post-medieval settlements recorded, 632 have either complete or significant preservation, suggesting a good level of preservation across the project area. Many of these have a previous character type of medieval settlement, defined by form.
Figure 48  The distribution of settlement still believed to have a medieval character in the current landscape

Figure 49  Post-medieval settlement distribution
Modern settlement (those areas of settlement which have their origin in the 20th and 21st century) has several definite concentrations, such as Harrogate, York and Middlesbrough. However, it is clear that modern settlement is not limited to the larger towns. As can be seen in figure 50, there are numerous areas of settlement which have expanded in the 20th century. This will be discussed in more detail below. Due to this expansion, there has often been a large amount of change in the surrounding landscapes. This is reflected in the legibility of modern settlements where 871 have fragmentary or invisible legibility.

804 (85%) of the modern settlements were previously enclosed land, and it is interesting to note that in some cases it is possible to recognise the shapes of former fields in the external boundaries of modern estates. This often reflects the sale of land for construction, but also shows that even in the most developed landscapes some traces of the previous historic character can be evident.

![Figure 50 Modern settlement pattern](image)

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**Key statistics**

Settlement across the project area takes many forms. This section will take a broad overview of the types identified within the project. For the purposes of this analysis the list has been simplified. The section on the Lower Tees Valley area will explore the patterns that have resulted from a more detailed approach to the settlement pattern, see section 3.4.

Chart 21 shows the number of areas identified for each type of settlement. The high number of planned estates in comparison to other character types is reflected here and also in Chart 22 which shows the total hectarage for each type of settlement.

Chart 23 shows patterns of settlement by number of occurrences of each type. While linear and nucleated forms are well represented the cul-de-sac pattern occurs the most frequently.
Chart 24 shows the legibility of settlements. There has been some change in most settlements since the first edition six-inch County Series Ordnance Survey mapping (1846-63), reflecting changes in the way settlement is created and a response to the changes in 20th century society, particularly the changes in transport patterns.

Chart 25 shows public space which is a difficult aspect of the built environment to quantify. It is evident that there is space which is accessible to most groups within society, for example roads and pavements. By accepting that settlements had routes of access present what this attribute attempted to record was the occurrence of public space intentionally created to enhance social interaction. In some settlements this was hard to define, but was probably present. With these settlements the public space was recorded as not being discernable.

The final chart in this section Chart 26 shows density of housing. Low-density housing is less than 25 homes per hectare; medium-density housing is between 25 and 55 homes per hectare and high-density housing is more than 55 homes per hectare. It can be seen that the majority of settlement in the project area is of low-density.

Historic Town Cores

Description

The historic town core is normally defined by reference to the first edition six-inch County Series Ordnance Survey mapping (1846-63). This shows the extent of the settlement at approximately AD 1850 and provides a good reference to define late 19th century and 20th century expansion. There are undoubtedly modern dwellings and shops within this area, for example York or Harrogate, however from a landscape perspective this provides a useful level in which to define the early extent of settlement. These are generally post medieval in character and take a variety of forms, ranging from the linear form of Northallerton, to Knaresborough, the layout of which is nucleated on the market place.

The actual form that the historic cores of the towns take varies greatly. For example, Ripon and Settle are nucleated around a central market place. Northallerton also has a weekly market; however this has a very different form, with two rows of shops and dwellings on either side of a central linear street, and burgage plots running away behind the properties. In contrast, Harrogate has seen a completely different development with two historic cores, based around Low Harrogate and High Harrogate, see Plate 18. York has a very different pattern, with the main city’s historic core defined by the city walls. However, as the city has seen large-scale 20th century expansion it has absorbed a number of villages in the suburbs, such as Acomb and Poppleton. These could have been characterised as historic cores, however to capture the historic depth they have been defined as villages, to enable the recording of their form, for example whether they are linear or nucleated. By doing this, the HLC project is also able to reflect the different identities that each area of settlement has, and how they form part of the wider York settlement pattern but yet are distinct from it.
Survival

The survival of historic town cores is good, although there is definitely evidence of infilling and change in the function of the buildings within the cores. It is also clear from figure 51 that the larger historic cores are found within very specific geographical locations, being located outside the main upland areas. There are some surprising exceptions, for example the historic core of Grassington (SE 00376423) covers an area of over 20 hectares and has significant legibility, while the historic core of Leyburn is 20.94 hectares. These are more extensive than the areas of Harrogate (Low Harrogate (SE 29805529) and High Harrogate (SE 31015564)). It is in the subsequent period between AD 1850 and 1900 that Harrogate significantly expanded.

Key statistics

There are no historic town cores with complete legibility. This probably reflects the fact that town centres tend to attract some level of development, even in those which seem to have a high degree of time depth, but while there has been some change a high proportion have maintained their character with 52 having significant legibility. Only six have partial legibility, reflecting a high degree of change in the 20th century, while three have fragmentary legibility, see Chart 27.

Chart 28 shows that while there are areas which are extremely open and others fairly densely developed (11 and 10 historic town cores respectively) the vast majority have medium-density housing which suggest a more open pattern of settlement.
Villages

Description

Villages form one of the key types of settlement in the project area. Found across the whole of the project area, they take three broad forms: green villages, linear villages and nucleated villages.

Green villages are those which have a village green which can be identified from the mapping. These normally have a nucleated form, although a number are more linear with the green either side of the road.

Linear villages are defined by the English Heritage thesaurus as “A group of related buildings, primarily with a domestic function, which is arranged along a principle axis such as a main road or route way” 126. Linear villages can occur in two key types, with either single or double rows. Sometimes, they display a back lane, and often have tofts associated with the dwellings.

Both green villages and linear villages show evidence of planning, which may well have its origins in the medieval period127.

Nucleated villages may well be planned (green villages could be recorded as nucleated villages), however there are examples where the village has developed over time. His is particularly noticeable where there is a key junction in the road network that has seen an inn develop, and then a number of other dwellings being built.

There is a fourth type of village which was recorded as part of the project, although limited in use. Estate village was used as a term where it could be demonstrated that the village had a direct relationship with a large-scale country estate, for example Studley Roger (SE 29027016). Due to the difficulty in establishing this relationship, there are only seventeen villages of this type recorded throughout the whole project area.

All the types of villages are found throughout the project area; however by looking at the four types individually, some patterns do start to emerge. While linear villages such as Grinton, Askrigg and West Witton are found in the Yorkshire Dales, and likewise Sleights, Castleton and Ugthorpe in the east of the project area, there is a clear density to the pattern in the Vale of Mowbray/Vale of York central part of the project area. This pattern is even more pronounced when looking at the distribution of green villages, with 52 out of 130 identified by the project located in the central part of the project area.

Out of 581 villages characterised by the project, 414 have an historic character which is post medieval, of which 305 have a previous historic character which was settlement, suggesting a clear medieval origin. Of these 414 villages recorded as having post-medieval character, 347 have complete or significant legibility, suggesting very little change since the first edition six-inch County Series Ordnance Survey mapping (1846-63).

126 http://thesaurus.english-heritage.org.uk/thesaurus_term.asp?thes_no=1&term_no=68988
127 Muir 2004: 272-273
Survival

The villages within the project area have an excellent level of legibility. Eleven have complete legibility, which indicates almost no change since the first edition six-inch County Series Ordnance Survey mapping (1846-63), while 418 (71%) have significant legibility, see Chart 30. Thirteen villages are modern in character. These normally represent villages where the degree of change has been significant enough to change the historic character. An example of this is Bishop Thornton which is shown to be, at the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63), a small hamlet. The current character for 441 of the villages dates to the post-medieval period, with the form of the buildings dating after AD 1540, and largely before 1900. Within this group of 404 villages with a post-medieval character, there are 306 which can be seen to have a previous medieval character. This is normally expressed in the street plan of the village. Nucleated villages have seen a slightly higher level of change (73% have significant legibility), while 95% of green villages have significant legibility.

Key statistics

From Chart 29, it can be seen that the greatest percentage of villages are in a linear form, followed by nucleated and green villages. Estate villages are in the lowest category.

From Chart 30, it can be seen that of the categories of legibility for this character type, significant legibility is by far the highest, followed by partial and fragmentary legibility. Those with complete legibility or invisible are in the lowest category.
Chart 31 shows the density of housing in villages. Low-density housing is less than 25 homes per hectare; medium-density housing is between 25-55 homes per hectare and high-density housing is more than 55 homes per hectare. The majority of villages consist of low-density housing.

Hamlets

Description

Hamlets are defined by the English Heritage thesaurus as “small settlement with no ecclesiastical or lay administrative function”\(^\text{128}\).

There are a number of different types of hamlets which have been recorded as part of the project. These follow broadly the same types as the villages with nucleated, green and linear villages having been recorded. However, where some hamlets only consist of a small number of dwellings, it has not been possible to determine whether they are nucleated or linear in form.

Distribution map

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Figure 53 Distribution of hamlets in North Yorkshire

Survival

There are 202 hamlets identified within the project area, 173 of which date exclusively to the post-medieval period. Eight of the hamlets have complete legibility with 145 having significant legibility. The majority of the hamlets identified, 107, are characterised as being nucleated. These are generally focussed around a road junction.

\(^{128}\) http://thesaurus.english-heritage.org.uk/thesaurus_term.asp?thes_no=1&term_no=68985
Key statistics

Charts 32 and 33 demonstrate that the majority of all forms of hamlet have significant legibility and that there are a higher number of hamlets which are in a nucleated form than any other.

Planned estates

Description

Planned estates are fairly easy to identify within the landscape as they generally have a very distinctive form, with the houses being arranged on a cul-de-sac pattern. These date to the 20th-21st century and represent the modern expansion of many existing towns and villages, see Plate 19. They have been dated as modern due to their absence from the second edition six-inch County Series Ordnance Survey mapping (1889-99). In the Lower Tees Valley area, it has been possible to refine these dates further due to the availability of two more editions of historic Ordnance Survey mapping. The estates are recorded as planned estates, private housing estates or bungalows. These normally have medium-density housing with private space defined by gardens, normally front and back. Public space tends to be more limited, either defined by car parking or not able to be identified at the scale of the characterisation being undertaken.

Distribution map

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Figure 54 Distribution of planned estates

The map above shows the distribution of planned estates within the project area. As might be expected, there is a fairly high correlation with the denser areas of settlement such as York and Middlesbrough. These will be discussed in more detail under the respective area analyses, see sections 5.4 and 3.4. A number of smaller planned estates were identified within the project. These seem to be attached to smaller settlements such as Huby (SE 56686611) or Brafferton and Helperby (SE
This change in settlement patterns may have resulted, partly from the influence of the Town and Country Planning Act, 1947\textsuperscript{129}. In the late 20th and early 21st century, there has also been a rise in small housing estates being developed in more rural locations, possibly as a reaction to aspirations for rural living.

**Survival**

Planned estates are very much a 20\textsuperscript{th}-century phenomenon, reflecting a particular tradition in the construction and development of settlement. These normally have a very formal planned arrangement, with provision for the use of the car, with the majority also having private space defined by front and back gardens.

**Key statistics**

From Chart 34 showing legibility of planned estates, it can be seen that the majority of these have fragmentary or invisible legibility to the previous HLC type.

Chart 35 shows that the previous character of planned estates was mainly that of enclosed land.

\textsuperscript{129} DoE 1947
4.8 Designed Landscape

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed landscape</td>
<td>Ornamental parkland</td>
</tr>
<tr>
<td></td>
<td>Municipal cemetery</td>
</tr>
<tr>
<td></td>
<td>Allotments</td>
</tr>
<tr>
<td></td>
<td>Public park</td>
</tr>
<tr>
<td></td>
<td>Deer park</td>
</tr>
<tr>
<td></td>
<td>Unidentified parkland</td>
</tr>
<tr>
<td></td>
<td>Country estate</td>
</tr>
<tr>
<td></td>
<td>Gardens and pleasure grounds</td>
</tr>
<tr>
<td></td>
<td>Private burial ground</td>
</tr>
</tbody>
</table>

Table 9  HLC types within the designed landscape broad type

Description

Designed landscapes can reflect many aspects of society, from the wish to improve urban conditions to the social trends for the picturesque. The broad type of designed landscape covers several different features characterised within the HLC project. The most obvious, and one that is particularly significant to the North Yorkshire landscape, is the country estate and park, which can be seen throughout the project area. However, the term designed landscape also includes municipal designed landscapes such as town parks, cemeteries and allotments. The uniting principle for all these landscapes is the starting point of a large-scale design, whether at the behest of a municipal authority or individual landowner.

Designed landscapes have an important role to play in defining historic character. Often inherently, and clearly, the result of historic processes themselves, they also provide areas where earlier features may be particularly well preserved.

There are several, well-known large estates, such as those at Castle Howard and Studley Royal, which have had a significant impact on the landscape and form an important aspect of the historic character of the area. Through the HLC project, a number of less extensive designed landscapes, such as those clustered around the south eastern part of the Howardian Hills AONB, have been identified and characterised.

In the following discussion, the designed landscapes will be explored in two groups, based on one of the attributes defined during the project, whether commissioned by private individuals or families, or whether they were created as a result of municipal design. In this way, trends throughout the project area will be identified and discussed.

Distribution

Figure 55 shows the overall distribution of designed landscapes within the study area. Figures 56 and 57 distinguish between those which are municipal, and those which are private. From these, it can be seen that the private designed landscapes are the more prevalent and have a wider distribution. The municipal designed landscapes are particularly located in the areas of the larger concentrations of
settlement, for example in the Lower Tees Valley area, around York and the coast.

**Figure 55**  Distribution of designed landscape broad type within the project area

**Figure 56**  Distribution of municipal designed landscapes within the project area
Figure 57 shows the distribution of designed landscapes which have been commissioned by private individuals or groups. These tend to have a wider distribution, but their survival does show some evidence of clustering in particular parts of the project area. For example, there seems to be very little evidence of private designed landscapes in the central area of the Yorkshire Dales, but there is a particular concentration within Wensleydale. Similarly, there is little evidence for private designed landscape upon the North York Moors.

![Map of private designed landscapes](image)

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**Figure 57  Distribution of private designed landscapes within the project area**

**Survival**

The overall survival for this historic landscape character type is good. There have been some changes to the designed landscapes, particularly with reference to the earlier medieval deer parks, for example the Ripon Parks, which were still indicated by place name at the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63), but had been enclosed by that time. The private designed landscapes form significant features of the North Yorkshire landscape, although their role has often shifted from a private role within the landscape to one that reflects modern tourism.

**Key statistics**

As can be seen from Chart 37, the greater numbers of designed landscape are private. Chart 36 shows that these private designed landscapes tend also to be larger in extent than their municipal equivalents.
4.8.1 Municipal Designed Landscapes

Description

The term municipal designed landscape covers a variety of landscapes which have resulted from municipal investment and planning. These cover allotments, parks and cemeteries. These are very different from the private areas but reflect a similar process of design and intention, albeit on a different scale and are often later in date than private designed landscapes. This may reflect several social changes within the project area in the late 19th and early 20th century, particularly the change in urban design, and the creation of social spaces. This sits within a network of wider social concerns, for example the rise in allotments.

Distribution

As can be seen in Figure 56, the municipal designed landscapes have a more limited distribution than the private designed landscapes, with a high-density in the York and Lower Tees Valley areas as well as the coastal resorts.

Survival

The concentration within the Lower Tees Valley may reflect the granularity of the HLC characterisation in the area. Most expressions of this type of landscape tend to be smaller than two hectares, which falls below the threshold for them to characterised individually as part of this project.

Key statistics

As can be seen from Chart 38, the vast majority of municipal designed landscapes are still active. Charts 39 and 40 show the number and hectarage of municipal designed landscapes by their legibility. By number of areas, a greater number have fragmentary legibility, but by hectarage, a greater number have significant legibility. As can be seen, there has been a fairly high level of change in reference to these landscapes.
4.8.2 Private Designed Landscapes

Description

Private designed landscapes are defined as those which were created by individuals or families. This covers several character types including country estates, deer parks, unidentified parkland, ornamental parkland and gardens and pleasure grounds. In addition, there are two areas of allotments and a public park which have been defined as having been built by private commission; these will be discussed below.

The HLC project area has a large number of designed landscapes. Within the North Yorkshire County Council area alone, there are 44 designed landscapes on the English Heritage 'register of historic parks and gardens of special historic interest in England', assessed to be of national importance. During the digitisation phase of the HLC project, a total of 244 private designed landscapes have been identified, characterised and recorded within the project area.

These take a wide variety of forms and have a fairly wide spread of dates, ranging from medieval deer parks to the large-scale estates of Studley Royal and Castle Howard, however many are much smaller, less than ten hectares in extent. These landscapes have been recognised by a variety of means, including place-name evidence, the presence of managed grounds, often a main house which forms an integral part of the landscape, as well as a coherent external boundary.

The area recorded during the historic landscape characterisation may not reflect the full extent of each estate within the landscape, rather it has recorded those areas which appear visibly to fall within this category based upon the sources used to inform the HLC project. It is likely that estate holdings extend beyond the boundaries defined by the HLC, however many of these areas will fall into other historic landscape character types and will have been characterised as such. The boundaries of the designed landscape can be seen as being in flux and permeable, for example the influence of estates may extend into the wider landscape, with elements such as the agricultural regime and woodland pattern influenced by plans originating from the estates. For the historic landscape characterisation, the extent of the designed landscape is taken as the area that can be seen to have an evident prior design which has been imposed on the existing landscape.

Whilst these landscapes represent continuity in form, their role in the landscape, particularly with regard to how the public interact with these spaces, has changed greatly due to shifting perceptions and roles within 20th-century culture.

Distribution

As Figure 58 shows, the number and distribution of private designed landscapes is greater than those which are municipal. Those which are largest in extent are the country estates; their distribution is notable in the central and eastern parts of the project area, excluding the North York Moors.

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Figure 58  Distribution of private designed landscapes within the project area, by HLC type
Survival

The survival of the private designed landscapes within the project is good with 154 out of 244 having significant legibility and another 24 having complete legibility. There seems to be a trend, particularly around the southern end of the Howardian Hills AONB, for the designed landscapes to cluster around larger designed landscapes. In the case of the Howardian Hills, this is around the country estates of Castle Howard and Newburgh Priory. There are seventeen deer parks which have been identified as part of the project. These tend to have significant or complete legibility, with only one having fragmentary legibility, suggesting a high degree of change since the first edition six-inch County Series Ordnance Survey mapping (1846-63). These tend to be in more moorland locations. It is unclear whether this reflects the original distribution or a result of later enclosure patterns; certainly the Ripon Parks have become enclosed in the post-medieval period.

The country estates identified vary in size greatly. The largest estates can be over 500 hectares in size. Castle Howard, for example, is over 700 hectares in extent. At the other end of the scale are smaller estates, which may only be ten hectares in size. These smaller areas may not have been recognised previously.

Deer parks were characterised where they could be recognised as defining the current historic character, however there were many examples where this had seen subsequent changes in the landscape, for example in the subsequent planned enclosure of areas in the post-medieval period. This meant that in many cases, where only traces of deer parks are found within the landscape, they are recorded in the database as a previous HLC type. Regardless of size, there are several shared characteristics with the country estates, particularly the presence of the main house.

Key statistics

Chart 41 shows private designed landscapes by HLC type. From this, it can be seen that by far the most common are country estates, accounting for half of all private designed landscapes, followed by unidentified parkland, ornamental parkland, deer parks and gardens and pleasure grounds. As Chart 42 shows, the vast majority of private designed landscapes are still active; although ownership may have changed, for example the world heritage site of Fountains Abbey and Studley Royal is now managed by the National Trust.}

131 http://www.nationaltrust.org.uk/main/w-fountainsabbeyandstudleyroyalwatergarden
4.9 Industrial

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>Mixed commercial</td>
</tr>
<tr>
<td></td>
<td>Ceramic building materials</td>
</tr>
<tr>
<td></td>
<td>Mill hemp</td>
</tr>
<tr>
<td></td>
<td>Fuel distribution</td>
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<tr>
<td></td>
<td>Smelt mill</td>
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<tr>
<td></td>
<td>Ash pile</td>
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<tr>
<td></td>
<td>Sewerage treatment centre</td>
</tr>
<tr>
<td></td>
<td>Steel works</td>
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<tr>
<td></td>
<td>Chemical industry</td>
</tr>
<tr>
<td></td>
<td>Metal working</td>
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<tr>
<td></td>
<td>Utilities (including gas, electric etc)</td>
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<tr>
<td></td>
<td>Shipyard</td>
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<tr>
<td></td>
<td>Industrial estate</td>
</tr>
<tr>
<td></td>
<td>Nursery</td>
</tr>
<tr>
<td></td>
<td>Mill unidentified</td>
</tr>
<tr>
<td></td>
<td>Mill cereal</td>
</tr>
<tr>
<td></td>
<td>Ironworks</td>
</tr>
<tr>
<td></td>
<td>Docks</td>
</tr>
<tr>
<td></td>
<td>Chemical works</td>
</tr>
<tr>
<td></td>
<td>Water processing/pumping/sewerage</td>
</tr>
<tr>
<td></td>
<td>Reclaimed industrial land</td>
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<tr>
<td></td>
<td>Engineering works</td>
</tr>
<tr>
<td></td>
<td>Scrap yard</td>
</tr>
<tr>
<td></td>
<td>Tannery</td>
</tr>
<tr>
<td></td>
<td>Rubbish tip</td>
</tr>
<tr>
<td></td>
<td>Food processing</td>
</tr>
</tbody>
</table>

*Table 10  HLC types within the industrial broad type*

**Description**

It is very easy to see the North Yorkshire part of the project area as a rural landscape with a predominantly agricultural economy. However, from the evidence of historic landscape characterisation, a different picture emerges, one of a county which has had a dynamic industrial base. In the Lower Tees Valley area, the evidence shows a huge growth in settlement in the late 19th century, predicated on the presence of many diverse large scale industries, which are still very visible today. The industrial broad type covers a wide range of activities, as can be seen from the variety of narrower HLC types in Table 10.

The issue with many of the industrial areas within the project area is that they are too small to be characterised in their own right as they are smaller in extent that the two hectare threshold required for them to be recorded. This means that only industrial areas larger than two hectares have been characterised as industrial.
Distribution

As can be seen in Figure 59, the distribution of industrial areas, whilst mainly concentrated in the Lower Tees Valley area, can also be seen dispersed through the central part of the project area, with notable gaps in the areas of the two national parks. There are also lesser concentrations within the southern part of the project area, within Selby district of North Yorkshire, and in the area around the city of York.

Survival

The industrial character of the North Yorkshire and Lower Tees Valley landscapes takes many forms. From post-medieval mills to the large-scale chemical works of the Middlesbrough area, these industries form an important aspect of the story of this landscape.

There are three main concentrations noted above which reflect changes and contrasts in the industries of these areas. In the Lower Tees Valley, the industrial character is defined mainly by heavy industry such as chemical and metalwork manufacture, whereas in the Selby area it is the 20th-century development of the utilities industry. This can be seen in the Drax and Eggborough power stations and associated features like the Gale Common ash disposal site, which have developed in the southern part of North Yorkshire. Around York, the change in transport links, particularly with the construction of the York outer ring road, has seen the growth of industrial estates around the periphery of the city.

Key statistics

The vast majority of the areas defined as industrial are modern in character. Only ten of the areas characterised as industrial are post medieval in date, seven of which are mills. Whilst it is difficult to generalise with such a small group, these are more common in the western part of the study area.
As can be seen in Chart 43, the majority of industrial areas have fragmentary legibility, followed by invisible, partial and significant. The minority have complete legibility.

Chart 44 shows the number of areas recorded for each HLC type. From this, it can be seen that the majority are industrial estates, followed by mixed commercial. Following these uses, there are a broadly similar number of areas characterised as utility, sewerage treatment centre, rubbish tip, nursery, unidentified mill and food processing.
4.10 Extractive

<table>
<thead>
<tr>
<th>Broad Type</th>
<th>HLC Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extractive</td>
<td>Alum extraction</td>
</tr>
<tr>
<td></td>
<td>Mine refractory materials</td>
</tr>
<tr>
<td></td>
<td>Quarry chalk</td>
</tr>
<tr>
<td></td>
<td>Quarry aggregates</td>
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<td></td>
<td>Quarry sandstone</td>
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<tr>
<td></td>
<td>Quarry flooded</td>
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<tr>
<td></td>
<td>Ironstone working</td>
</tr>
<tr>
<td></td>
<td>Jet working</td>
</tr>
<tr>
<td></td>
<td>Mine unknown</td>
</tr>
<tr>
<td></td>
<td>Mine stone</td>
</tr>
<tr>
<td></td>
<td>Deep-shaft mine coal</td>
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<tr>
<td></td>
<td>Mine copper</td>
</tr>
<tr>
<td></td>
<td>Salt extraction</td>
</tr>
<tr>
<td></td>
<td>Shallow-shaft coal mining</td>
</tr>
<tr>
<td></td>
<td>Open cast mine coal</td>
</tr>
<tr>
<td></td>
<td>Reclaimed mine coal</td>
</tr>
<tr>
<td></td>
<td>Clay pits brick works</td>
</tr>
<tr>
<td></td>
<td>Quarry limestone</td>
</tr>
<tr>
<td></td>
<td>Quarry other</td>
</tr>
<tr>
<td></td>
<td>Mine lead</td>
</tr>
<tr>
<td></td>
<td>Peat extraction</td>
</tr>
</tbody>
</table>

*Table 11  HLC types within the extractive broad type*

**Description**

The historic landscape character of extractive industries can be seen across the study area. From the lead mines of the Yorkshire Dales to the alum workings of the east coast and the Selby coalfield, evidence for mining and quarrying can be found within the landscape. This extraction can be fairly small scale, accumulating over decades to create larger complexes of workings. In other areas, the extraction is focussed and intensive.

The extractive broad type covers mining, open cast, deep shaft and shallow shaft as well as quarrying. The range of these narrower HLC types can be seen in Table 11. The following sections will focus upon a discussion of lead mining and quarrying, with a focus on alum extraction and coal mining.

**Distribution**

The distribution of extraction as an historic landscape character broad type, as shown in Figure 60, can be seen to focus upon the upland areas of the North York Moors, the Yorkshire Dales and Nidderdale, and in Selby district to the south. There is limited extraction in the Lower Tees Valley, and in the central parts of the project area, such as the Vales of York and Mowbray.
Survival

The post-medieval activity in the lead-rich areas of the Yorkshire Dales and Nidderdale has shaped the landscape, leaving traces which are still evident across thousands of hectares. There are several different types of works which have been recorded within the landscape. These have been recorded by type (whether they are quarrying, or mining) as well as by the product (see Charts 45 -47).

Within the HLC project area, many locations were recognised as having evidence of small-scale quarrying or mining, however these areas were often too small to define individual historic landscape character, as they fell below the two hectare threshold. One of the ways this was addressed was through the inclusion of an attribute called ‘dominant dispersed industry’ under the unenclosed land broad type.

The frequency of extractive landscapes will be discussed in more detail below, however, what is clear is that while quarrying may be more frequent as individual areas within the landscape, the sheer scale and complexity of the mining landscapes has had a significant impact in shaping historic landscape character.

The Greenhow lead mining complex (SE 088631) provides an excellent example of this. Covering an area of 1,223 hectares, the Greenhow system consists of many individual mining events across a wide variety of physical landscapes. It is particularly noticeable that a large number of the mine workings have occurred within a series of field systems. This raised the issue during the digitisation phase of the project as to whether to characterise the area on the basis of the lead mining or the enclosure. After consideration, it was felt that the lead mining defined the historic character of the current landscape, and was therefore recorded as such. This landscape has a long history of extraction dating from the medieval period up until the AD 1970s.
Key statistics

Charts 45 and 46 show the relative proportions of quarrying and mining within the project area. Areas characterised as mining have the greatest extent by hectarage (16,540 to 5,809), yet the number of areas identified are more limited; areas characterised as quarrying are greatest in number (201 to 74).

Chart 47 shows the number of extractive historic landscape character areas by product. As can be seen, the most common type of extraction product is limestone, followed by aggregates and sandstone.

Chart 48 shows the previous character of extraction landscapes. From this, it can be seen that there are a variety of previous character types. The greater number of areas were previously enclosed land, followed by unenclosed land.

With regard to legibility, it can be seen from Chart 49 that the majority of extractive landscapes within the project area have significant legibility, followed by partial and fragmentary.
4.10.1 Lead mining

Description

Lead mining has been described as the most important extractive industry in the Yorkshire Dales. The lead was recovered from small unpredictable runs of galena which were found in the underlying rock. In terms of the HLC project, lead mining refers to areas which have been characterised by the extraction of lead, to the degree that it dominates the historic landscape character. There is evidence of lead mining in the area dating back to the Iron Age period. The main lead mining activity dates to the post-medieval period, with the mining generally following the veins. Evidence for the mining can be found in the surrounding landscape, whether it is enclosed land or moorland. A process of assessing the density of the extraction informed the characterisation. The lead mining varied over time in the character of the workings, creating landscapes with an intricate level of time depth expressed within the physical character. While the need for lead to be present is an obvious prerequisite for the industry, the scale, intensity and location of workings is also influenced by other factors such as price, developing technology and speculative discovery. The right to work the vein and extract the lead was sometimes regulated so that the first person to discover it could extract the mineral for two meres, with subsequent miners able to work in adjacent meres. This may explain some of the relationships that are seen between the enclosed and extractive elements of the landscape.

Distribution

Figure 61 Distribution of lead mining within the project area

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132 White 1997, 78
133 Greenhow Local History Club 2005, 7
134 White 1997, 80
As can be seen from Figure 61, the distribution of lead mining within the HLC project area lies exclusively within the Yorkshire Dales and Nidderdale.

**Survival**

The survival of the lead mining remains is good and they have a major influence on the historic landscape character. They are found within the areas of Greenhow (SE 088631) and around Swaledale, for example at NZ 077043. Within both landscapes there is a lot of evidence of onsite processing. There is some evidence of buildings associated with the lead mining; about 50% of the lead mining areas identified had structures associated with them. The extraction seems to be a fairly evenly split between concentrated and dispersed extraction, although the overall hectarages seem to be at a very different scale, with concentrated extraction covering a total area of 499.7 hectares, whereas dispersed extraction covers a total area of 14,570 hectares.

The lead mining landscapes have excellent legibility, with 39 of the areas identified having significant legibility, suggesting very little change in the physical character since the first edition six-inch County Series Ordnance Survey mapping (1846-63).

**Key statistics**

As can be seen from Chart 50, the legibility of the majority of areas characterised as lead mining is significant. In terms of the concentration of this lead mining, the areas characterised are mainly either, dispersed, or concentrated, followed by nucleated, as shown in Chart 51. In terms of scale of mining, Chart 52 shows that the highest numbers are similar between moderate, small and large, followed by very large, with a small minority being very small in extent.
4.10.2 Quarrying

Description

There is a long history of quarrying within the HLC project area, ranging from small-scale localised quarrying for limestone to feed lime kilns, up to the large-scale aggregates quarries which can be seen today. There are a wide range of products from the quarries, ranging from limestone in the Yorkshire Dales to chalk extraction in the Yorkshire Wolds, see Chart 47.

Distribution

As can be seen in Figures 60 and 62, the distribution of quarrying within the HLC project area is similar to that for extractive industries as a whole, spreading across the eastern, western and far southern parts of the project area, with a more limited distribution in the central parts of the HLC project area, such as the Vales of York and Mowbray.

Survival

The project has identified 156 quarries within the study area. Of these, the vast majority are modern in date. In 68 of the quarries identified, the previous character was enclosed land. In one example, the previous character was designed landscape. Four of the quarries recorded were woodland before extraction began. Fourteen show evidence of previous quarrying in the same area, which has subsequently been removed, whilst ten were located on previously unenclosed land. As the distribution map in Figure 62 shows, the quarrying is largely located in the upland areas, although there is limestone quarrying on the Southern Magnesian Limestone, while at the southern boundary there is evidence of aggregates extraction. The building materials produced by this quarrying have had a major impact in shaping the built historic environment, for example the use of material from quarries on the Southern Magnesian Limestone in the buildings of medieval York, while in the Yorkshire...
Dales material from small quarries is used in local building materials such as roofing flags\textsuperscript{135}.

**Key statistics**

As can be seen from Chart 53, the legibility of the majority of areas characterised as quarrying is significant, closely followed by partial, with a smaller number with fragmentary legibility. In terms of the products of this quarrying, as can be seen in Chart 47, the most common type of extraction product is limestone, followed by aggregates and sandstone.

\textsuperscript{135} Toase 1999
4.10.2.1 Alum quarrying

One of the most significant industries in the eastern part of the study area, and the earliest in date, relates to the extraction and processing of alum. Within the outcrops of Jurassic shales, easily accessible in the coastal cliffs, the shale can be found to the north and south of Whitby. There are also a number of outcrops which were recognised further inland. Regarded as one of the earliest chemical industries in the country, the alum was used to fix dye in the wool industry. Prior to the development of the domestic processes, the alum had to be imported from the Middle East.

The search for alum in the British Isles started in the reign of Henry VIII in the late 15th century, however it was in the 17th century when the industry started to emerge in this region. The first recorded evidence for alum works in the project area refers to Slapewath, which seems to have become active in 1604. The industry appears to have gone through several stages, with the growth of the coastal works starting in the early 17th century at Sandsend.

The production process of alum extraction was relatively inefficient, with only one tonne of alum recovered for every 20 tonnes of material excavated. This has meant that the mining waste products have had a significant, physical impact on the landscape that is still visible today.

The project has identified seven areas which are associated with this industry, two of which are inland, while the remainder are on the coast. The two inland areas are at Carlton Moor (NZ 5202) and Slapewath (NZ 6316). Carlton is a large area of fairly nucleated extraction. There is no longer evidence for buildings on the site, although there are remnants of on site processing. The quarry was active from approximately AD 1680 to 1780. In addition to the shale extraction on Carlton Moor, there is also evidence for jet mining and sandstone quarrying. The jet mining follows the 1,000ft contour line (on the first edition six-inch County Series Ordnance Survey mapping (1846-63)) and dates to the 19th century, following the abandonment of the alum works.

Slapewath similarly does not have any evidence for buildings, but there are remains from onsite processing. Slapewath is a smaller site with less extraction, although it seems to have been active in the 19th century. It is unclear if this is the site of the original 17th-century extraction or whether this has been removed by later activity.

The majority of the evidence for alum workings is located along the coast. The HLC project has characterised four such areas. At Boulby (see Plate 20) and Loftus (HNY 5445), there is a long history of alum extraction which has reshaped the coastal slopes, cliffs and rocky foreshore. Active between AD 1650 and 1800, alum quarrying here is large scale and dispersed. The buildings that were present at the time of the first edition six-inch County Series Ordnance Survey mapping (1846-63) have now gone. There is some evidence of jet working in the vicinity, but not large enough to be characterised on its own terms.

At the Peak alum works, see Plate 21, there is evidence of buildings which were associated with the processing of material. Brow alum quarry, by contrast, has no evidence of buildings and quarrying seems to have occurred on a smaller scale.

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136 Miller 2002
With extraction finishing in AD 1862, the alum works are mainly overgrown now. There is some evidence for small-scale extraction closer to the coastal area, but due to the small scale of the remains, these are not extensive enough to be characterised on their own, and are included within the coastal slope record.

4.10.3 Coal mining

Description

Coal mining has a long history in the project area, although the scale has changed dramatically over time. This mining can be broadly divided into three forms: open cast, deep shaft and shallow shaft. The examples of deep-shaft coal mining are mainly in Selby district and the Yorkshire Dales, whilst the shallow-shaft mining is located mainly in the North York Moors, see Figures 63 and 64. There is one example of possible coal extraction by quarrying. This is at Thorpe Edge to the east of Hudswell (NZ 124003).

Distribution

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Figure 63 Distribution of deep-shaft coal mining within the project area