National Character Area 37

Yorkshire Southern Pennine Fringe - Context Map

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National Character Area 37

Yorkshire Southern Pennine Fringe - Key Characteristics

- A transitional landscape dissected by steep-sided valleys, dropping from the high gritstone hills in the west to lower land in the east, and thus creating an important backdrop to the many industrial towns and villages within and beyond the NCA.

- Sandstones and gritstone beds of Millstone Grit (Namurian) age underlying smooth hills and plateaux in the west. These are overlain in the east by beds of sandstone, siltstone and mudstone of Coal Measures age.

- Rivers creating a deeply dissected landscape, with high plateaux cut by steep-sided valleys, and fanning out in ‘fingers’ across valleys of the NCA.

- Treeless hill tops with tracts of rough grazing and extensive areas of enclosed pasture to the west, but with broadleaved woodland on steeper valley sides, giving the impression of a well-wooded landscape, especially to the north and west of Sheffield.

- Predominantly pastoral farming, especially in western areas, with a shift to more arable land in the drier eastern areas.

- Boundary features that change from distinctive patterns of drystone walls on the upland hills, to hedgerows becoming the predominant field boundary in the east.

- Close conjunction between rural landscapes and the rich industrial heritage of the urban areas, including settlements associated with the textile industry, with large mills and tall chimneys, and large factories and forges associated with the iron, steel and manufacturing industries.

- Urban development constrained within valley floors and up side slopes, with location and layout strongly influenced by the landform.

- Industrial wealth revealed in magnificent civil architecture in town centres, notably Bradford, Halifax, Huddersfield and Sheffield, and several stately homes with designed parklands.

- Evidence of bronze-age and Roman habitation still present on uplands, and old pack-horse routes that once joined settlements across the Pennines still in place, or now forming modern major road routes.

- Extensive and dramatic views from higher land out over lower-lying land to the east, even from within urban areas.

- Several reservoirs contained within narrow valleys contributing a distinct character as well as providing popular places to visit.

- Small patches of fragmented priority habitats providing important refuges locally for wildlife. Grassland mosaics are particularly important in supporting waders and the twite that

breeds on adjacent moorland areas; lowland woodland is also an important feature.

- In places a dense network of roads and urban development, with many road, rail and canal routes crossing the NCA, and a high density of footpaths throughout.

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National Character Area 37

Yorkshire Southern Pennine Fringe - Description

Physical and functional links to other National Character Areas

The Yorkshire Southern Pennine Fringe is a transitional area, lying between the pastures of the upland Pennine block to the west and the lower-lying arable land to the east. Within the National Character Area (NCA), there is also a transition of land use across the area, from more rural, upland and sparse landscape in the west to the more heavily developed industrial areas in the east.

Several major and minor rivers flow from west to east through the area. These include the Don, the Calder and the Colne in the north-east, and the Sheaf, the Rivelin and the Loxley to the south, near Sheffield. Deeply incised river valleys show distinct shoulders where they have cut down from earlier broader valleys; narrow valleys open out as they descend to the east. These rivers and their associated riparian habitats also provide strong ecological links

from the Pennine uplands to the surrounding lowlands, serving as essential ecological networks to aid the movement of species. Management activities of these watercourses upstream are therefore likely to affect this NCA, just as management within this NCA will impact on areas downstream in the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA and the Humberhead Levels NCA – and ultimately the Humber Estuary NCA.

In places there are extensive views out to the east over the adjacent towns and agricultural land of the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA. The steep slopes of the NCA, together with the tops of the Southern Pennines NCA and Dark Peak NCA including the Peak District National park, provide a dramatic backdrop and views from lower-lying NCAs to the east.

The Special Protection Area and Special Area of Conservation designated in the adjacent Southern Pennines NCA would benefit from improved management of upland pastures in this NCA, to provide further support for key species, especially twite.

The mix of urban and rural in the NCA provides people with a strong sense of place as here at Sowerby Bridge within

Historic as well as modern infrastructure is a key characteristic of the NCA with canal routes now providing recreational opportunities such as along the Calder

the wider landscape setting. © John Morrison

and Hebble Navigation. © John Morrison

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The Yorkshire Southern Pennine Fringe today

The Yorkshire Southern Pennine Fringe NCA marks a transition from the uplands to the west to the low ridges of the Nottinghamshire, Derbyshire and Yorkshire Coalfield NCA to the east. The most striking aspect of the landscape is the close juxtaposition of predominantly gritstone industrial towns and villages with the strong valley forms and the pastoral agriculture of the Pennine foothills. The use of local gritstone for industrial buildings and houses gives a strong sense of visual unity and connection to the landscape.

The sandstones and mudstones of Millstone Grit age support extensive but poorly drained pasture land which is prominent in the west of the area; this is overlain by beds of sandstone, siltstone and mudstone in the east, giving rise to quality building stone and more fertile soils for agriculture.

The uplands of the Pennines drop down from west to east and the land is deeply dissected by a series of rivers, notably the Calder, the Colne, the Holme, the Don, the Loxley, the Rivelin and the Sheaf. These and smaller rivers have created steepsided valleys, with woodland on the steeper slopes, forming clear visual backdrops to the settlements. Many contain reservoirs, which each bring a distinctive character to their valleys and provide good opportunities for accessing and enjoying the countryside. They include Blackmoorfoot, Broadstone, Ingbirchworth, Royd Moor, Scout Dike, Underbank, Moor Hall and Damflask.

The settled valleys contrast strongly with the treeless rough grazing and remnant moorlands on higher land and the extensive areas of pastures enclosed by drystone walls on the Pennine foothills. Here there are scattered farmsteads and hamlets, and the landscape has

a more remote feel, even though towns are not far away. The farmhouses, barns and walls are all built of local sandstone and gritstone, again providing strong visual unity. On some areas of the plateaux there are distinctive patterns of regular rectangular fields delineated by drystone walls, for instance near Penistone and Honley.

The mix of urban and rural in the NCA provides people with a strong sense of place as here at Sowerby Bridge within the wider landscape setting. © John Morrison

Farming in the west is largely based on livestock, including some dairying, where the climate is wetter and cooler due to altitude. Here there are mosaics of grasslands enclosed by drystone walls, creating a patchwork of textures and colours across the hillsides, and providing a range of feeding and breeding opportunities for waders (curlew, lapwing and snipe) and other birds such as the twite. Many of the grassland habitats have been subject to agricultural improvements and have lost much of their biodiversity interest. Semi-natural habitats are generally interspersed in this landscape as small fragments of those found more widely in upland areas; for example, patches of upland heath, acid grassland and purple moor grass still exist. These patches of habitat are very important for wildlife locally, as recognised through their designation as Local Wildlife Sites; however, they are not recognised within national designation schemes. To the east there is more arable cropping, and hedges take over from walls as the

predominant field boundary. The proximity of urban areas has led to horse grazing and other typical peri-urban land uses in places.

Generally tree cover is fairly high, with 11 per cent of the area under woodland. Some of the higher pastures to the west are almost treeless, but this is offset by other areas that have retained a substantial framework of woodlands, notably around Grenoside, north of Sheffield. Elsewhere there are small woodlands, in some instances reinforced by hedges and hedgerow trees, giving the impression of a well-wooded landscape. Generally woodland occurs on the steep valley sides and is mostly broadleaved, with some conifers. Valley bottoms tend to be developed right up to the banks of the rivers, but there are a few undeveloped valleys where there are pastures and meadows, and hedges with ash and oak hedgerow trees. The narrow wooded valleys on the west side of Sheffield have become part of a network of habitats and other linear green areas that extend and allow species to move right into the centre of the city.

The pronounced landform gives rise to dramatic views, with long views over busy urban areas across valleys and over lower-lying land to the east. From within the towns there are views out to the surrounding hills, so that town and country are more obviously linked. Around Batley and Dewsbury, where the Coal Measures rocks are exposed, the hills and valleys are gentler and more rounded, and urban development has extended further. Here there is a complex mix of land cover, with small patches of open land, fields and woods separating areas of housing and industry.

The impact of development is nearly always evident, with dense networks of roads where the landform permits, as around Batley and Dewsbury, and many main road, rail and canal routes cutting across the area. The area contains a wealth of industrial archaeology which contributes significantly to the strong sense of historical character and identity, although this is breaking down in some of the more extensive urban areas.

Patterns of settlement and industrial development have been strongly influenced by the landform; location of raw materials and fast-flowing rivers shaped the location of the textile, coal and steel industries and the towns that grew up around them. Mills, factories and towns and canal, rail and road routes have been largely confined to the valleys, spreading along in linear form. Tall mill chimneys often act as focal points, while terraces of stone-built houses follow the valleys and spread up the side slopes.

Although united by the use of gritstone in building, the settlements also vary and thus alter the character of the landscape. In the north are the woollen and engineering towns of Halifax, Huddersfield and Bradford, where large stone mills, now often converted to other uses, are prominent in the landscape; the town centres are dominated by substantial and imposing civic buildings. In the south, to the west of Sheffield, the many stone-built Victorian houses and gardens built by wealthy industrialists are evident. In between, smaller settlements such as Penistone and Holmfirth have a distinctly Pennine character, combining compact gritstone centres with the contrasting open hills and pastures. There is continued pressure around existing settlements for more development for housing and employment, which may impact on the urban-rural mix found in the NCA. To redress the decline of past industries there is also strong pressure to regenerate old industrial areas and many of the housing estates that were built around these to support workers.

The wealth created by the industries was often used to build stately homes with designed parklands, many of which are now public parks within wider urban areas, such as Weston Park and the Porter Valley parks in Sheffield and Lister Park in Bradford. The People's Park in Halifax was designed by Sir Joseph Paxton in 1857 and was later donated to the people of Halifax. Local Nature Reserves cover 1 per cent of the NCA, providing a relatively high number of opportunities for recreation in and engagement with the natural environment. Sheffield in particular has good green infrastructure

linking the city to the surrounding countryside and the Peak District National Park to the west. Access across the NCA through footpaths, canals and disused railway tracks also makes the landscape more permeable for people and wildlife. The long-distance routes of the Trans Pennine Trail and Calderdale Way provide an important resource.

Lapwing rising from a ploughed field near Penistone. The farmland and grassland mosaics in the upland fringe provide a range of feeding and breeding habitats for wading birds. © Viv Cheetham

The landscape through time

This landscape is underlain by Upper Carboniferous strata. Most notable are the hard, coarse-grained sandstone beds ('gritstones') interbedded with softer siltstones and mudstones of the Millstone Grit, which dips to the east here where it is overlain by the beds of sandstone, siltstone, mudstone, coals and ironstone of the Coal Measures. The smooth hills and plateaux formed by the Millstone Grit are dissected by fast-flowing rivers and streams to form deep, narrow valleys, with the rivers flowing to the east. Except in the vicinity of Bradford, the area lies to the south of the southern limit of the ice sheet during the last glaciation, and lacks glacial deposits.

Early settlement in this area seems to have been sparse, although prehistoric earthworks and rock art survive in woodland areas to

the south of the area. Flint scatters suggest that Mesolithic habitation sites may be preserved under peat in the uplands, while traces of bronze-age settlement are preserved on the undeveloped higher land to the west. There is some evidence of former Roman field systems and infrastructure, for example Finkle Street.

The woollen industry has been the main influence on the landscape since the 12th century. It arose due to the suitability of the land for sheep rearing, combined with the numerous watercourses running off the Millstone Grit which provided soft water suitable for wool preparation processes. The woollen industry was initially a home industry, in small settlements on the plateaux, with small intakes of land enclosed to support subsistence farming for the woollen trade workers. The laithe house (adjoined house and byre) building style is directly related to this lifestyle. Traditionally settlements in the Yorkshire Southern Pennine Fringe were dispersed along valley bottoms.

Significant features are the old pack-horse trading routes across the Pennine hills, which linked settlements lying to the east and west. These have evolved into today's modern road routes.

Conversion of rural buildings and development of structures, such as these turbines on Royd Moor, increase the urban feel of the landscape. © John Morrison

Between 1750 and 1850 rapid industrial development transformed the area. In the valleys to the west of Sheffield plentiful ironstone reserves gave rise to small-scale smelting works. The ready supply of water power led to the establishment of textile and cutlery factories in the valleys. Later, coal for steam was exploited to drive machinery, which led to the massive expansion of the steel and woollen industries. This was initially derived from shallow coal mines on the side slopes of the Pennines, then from larger mines that extended into the deeper, richer veins to the east.

Mass migration of people into the industrialised valleys followed, and an extensive programme of building – mills, factories and housing – took place. In the late 18th and 19th centuries, canals and then railways were constructed to move raw materials and manufactured goods, and reservoirs were built to provide drinking water to the conurbations. Market gardens also supplied the cities, while quarries were opened up to supply building stone for both local use and export.

The impermeable mudstones of the Millstone Grit rocks in the west give rise to extensive but poorly drained pasture land, and traditionally the gritstone has been a source of grindstones and building stone. Coal Measures sandstones, notably the Elland Flags, provide excellent quality building stone. This was used extensively during the rapid growth of the large conurbations of Bradford, Halifax and Huddersfield and elsewhere. Some large quarries, both active and inactive, remain as features within the landscape, especially around Halifax.

Wealthy industrialists built major civic buildings and created a number of parks and gardens in the area during this period, which still contribute to the character of the landscape today. A notable example is the model town at Saltaire, which is now a World Heritage Site. In upland areas the continued sheep rearing resulted in large, regular, rectangular fields on the plateaux being enclosed by stone walls and forming strong patterns in the landscape.

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Today the NCA is becoming increasingly urbanised through both settlement expansion and conversion of rural buildings and structures, for example individual wind turbines and larger wind farm developments. Within the wider landscape there has been an increase in woodland cover and management, with management agreements for woodland and other semi-natural habitats helping to enhance some of these features.

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National Character Area 37

Yorkshire Southern Pennine Fringe - Landscape Change

Monitoring Landscape Change

Drivers for change

The Yorkshire Southern Pennine Fringe, a transitional landscape characterised by rural landscapes and the rich industrial heritage of the urban areas, is subject to several development pressures which will increase the urban fringe influence. Increased precipitation may lead to the flooding of major rivers and consequent flood risk adversely impacting settlements, key transport routes and historical assets. Additionally, pressures from climate change and increased need for food production may alter agricultural practices.

Monitoring landscape change

The most recent monitoring of landscape change within NCAs forms part of the **Outcome Indicator Framework for the 25 Year Environment Plan** . This includes indicator **G1: Changes in landscape and waterscape character** , informed by indicator component G1a: Changes in the landscape characteristics of NCAs in England.

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Indicator component G1a measures the extent to which landscape change is achieving the aspirational landscape outcomes described in the NCA Statements of Environmental Opportunity (SEOs). For this purpose, SEOs across all NCAs are distilled into 34 Super Landscape Objectives (SLOs).

NCAs with broadly similar character and pressures for change have been grouped into 18 sub-Agricultural Landscape Types (sub-ALTs) that represent rural, urban and coastal landscapes. Equal numbers of relevant SLOs were identified for monitoring within each sub-ALT and their associated NCAs. These SLOs were assessed based on changes between 2015 – 2019 (or the closest approximations to those dates with the data available). The results of each SLO were combined to form an integrated view of overall landscape change within each NCA during this time period.

For further details on this landscape monitoring, refer to the G1a Landscape Change Atlas and report, which are available via the Landscape Change Evidence Hub.

Landscape Change Evidence Hub

The Natural England Landscape Change Evidence Hub has been created to provide access to information that can help us understand how, where, and why England's landscapes are changing, and how to manage change into the future. This includes the information on the Outcome Indicator Framework for the 25 Year Environment Plan, indicator G1, and the indicator component G1a Landscape Change Atlas and report.

Results of G1a: Changes in the landscape characteristics within this NCA

Listed below are:

- the overall trend for this NCA
- the results of the underlying analysis for each of the individual Super Landscape Objectives considered relevant to the NCA; this includes the 'provisional status' (i.e. current understanding of state/condition) and the 'change trend' associated with each SLO.

The following SLOs are considered relevant to this NCA. The current provisional status of each objective and the assessment of change (expressed as a trend) is listed below. The overall integrated trend assessment is also listed.

Overall trend:
Mixed change, mainly improving

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SLO Code	Super Landscape Objective	Provisio… Status	Change Trend
SLO1	Conserve and enhance landscapes for their tranquillity and dark skies particularly where they are under pressure from the potential impacts of development and associated infrastructure.	Unknown	Declining
SLO2	Conserve and enhance our priority habitats for their contribution to landscape character and quality (including natural/cultural values).	Good	Little change
SLO3	Improve the ecological condition of rivers and canals as important landscape features including habitats, connectivity and cultural significance.	Poor	Improving
SLO4	Conserve and enhance our heritage assets for their physical and cultural contribution to landscape/waterscape character and quality.	Good	Little change

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SLO Code	Super Landscape Objective	Provisio… Status	Change Trend
SLO5	Ensure that agri-environment schemes are contributing positively to landscape and waterscape character.	Poor	Little change
SLO6	Conserve and enhance the field boundary features and patterns that characterise our varied landscapes.	Neutral	Declining
SLO7	Improve access to and through landscapes with cycle paths and long distance footpaths, to increase recreational and educational opportunities for engagement with the natural environment.	Unknown	Little change
SLO8	Enhance the visual and experiential quality of our landscapes and waterscapes.	Unknown	Unknown
SLO9	Improve the overall condition of Sites of Special Scientific Interest for their contribution to landscape character and quality.	Good	Little change
SLO10	Seek to mitigate climate change through enhancement of carbon sequestration capacity within the landscape, and increasing above ground carbon stocks within vegetation and soil.	Unknown	Unknown
SLO11	Seek to mitigate climate change through enhancement of carbon sequestration capacity within the landscape, and increasing below ground carbon stocks within vegetation and soil.	Unknown	Unknown
SLO12	Seek to conserve, enhance and increase characteristic broadleaved woodland through appropriate management.	Neutral	Little change
SLO15	Increase opportunities for enjoyment of the landscape and waterscapes, enhancing the network of public spaces, open green space and parks.	Unknown	Improving
SLO17	Improve the quality of and extent of green corridors within the peri-urban landscape, increasing areas of publicly accessible green spaces.	Unknown	Improving

SLO Code	Super Landscape Objective	Provisio… Status	Change Trend
SLO18	Improve the landscape and waterscape character and quality of watercourses and waterways, where appropriate improving visual and physical access and increasing riparian vegetation and tree cover, and thereby providing additional filtration, flood mitigation, and habitat.	Unknown	Little change
SLO22	Conserve and enhance moorland habitats characteristic of the landscape such as blanket bog, wet heath, mire, heather moorland.	Neutral	Little change
SLO23	Reduce and manage conifer plantations for landscape and biodiversity benefits. Restructure and carefully enhance, where appropriate, the broadleaved element of woodland cover.	Unknown	Strongly improving
SLO27	Conserve and enhance (manage) hay meadows and semi natural grasslands on the upland fringes and in dales and valleys, through appropriate management.	Unknown	Unknown
SLO31	Improve the ecological condition of lakes, ponds, fens and other waterbodies as important landscape features including habitats, connectivity and cultural significance.	Poor	Little change

Additional information on landscape change

Historic Aerial Photo Explorer

The Historic England Aerial Photo Explorer presents a nationally important collection of aerial photographs from across the country, depicting how the landscape has changed within the NCA over time.

Historic Mapping Side by Side Viewer

The National Library of Scotland Side by Side Viewer presents historic mapping across the UK, alongside current OS, depicting how the landscape has changed within the NCA over time.

Renewable Energy Planning Database

The government's Renewable Energy Planning Database tracks the progress of UK renewable electricity projects over 150kW through the planning system. The location and details of these projects can be viewed in the database spreadsheet, or on the **Renewable Energy Planning Database Interactive Map** , this depicts how the landscape within NCAs are changing with regards to renewable development.

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Landscape change reported in 2014

- Recent changes and trends (reported in 2014)
- Drivers of Change (reported in 2014)

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Yorkshire Southern Pennine Fringe - Detailed Statements of Environmental Opportunity

This section expands on the **Headline Statements of Environmental Opportunity** and provides further detail on each of the Statements of Environmental Opportunity.

SEO 1

SEO 1: Protect and manage the rich industrial heritage – including historical settlement patterns and local vernacular styles, as well as the industrial and municipal buildings that were built with wealth when the industry thrived, such as the World Heritage Site at Saltaire – which links the history of the area to the landscape features, to enhance sense of place and

history and inspire local communities through increased access and recreation opportunities.

For example by:

- Managing and maintaining historic parklands, to retain their character and promote new opportunities for access, recreation and interpretation at these sites where appropriate.
- Conserving the old pack-horse and trading routes that linked settlements across the Pennines, to provide recreation and access for people and a link to these historical assets through appropriate interpretation.
- Retaining evidence of mills, factories and forges associated with the iron, steel and woollen industries from early small-scale stages to the large industrial-scale works, and providing access and interpretation where possible.
- Strengthening local sense of place through connection to past industrial heritage, for example through recognising that the suitability of the land for sheep rearing combined with numerous watercourses led to the development of the woollen and textile industry in the north of the NCA, while in the south-west of Sheffield the fast-flowing streams and reserves of iron led to the development of the steel and cutlery industry.
- Restoring key structures, in particular tall mill chimneys where they function as focal points within a valley, to retain historical evidence.
- Using appropriate materials, especially local stone, when converting historical buildings to other uses, to maintain visual unity.
- Managing and conserving the World Heritage Site at Saltaire, to provide an international site of importance for explaining the history of the area.
- Encouraging imaginative interpretation to reveal the strong links between the landscape, in particular the underlying geology and the industries of the area, from the woollen industry in the north to the iron and steel industries around Sheffield.

- Providing interpretation of other key structures such as the reservoirs, to make the links between landscape, geology and history.
- Using local sandstone for new, restored and converted buildings, and restoring traditional farm buildings, incorporating local styles and building techniques.
- Respecting the distinct character of the historic towns and ensuring that new development respects that character and settlement form, for example the linear pattern of development within the valleys to the north, with associated mill cottages, and the more industrial settlements that grew up around Sheffield and Halifax. Retain the open countryside between settlements.
- Identifying and protecting the remnants of bronze-age and Roman habitation on elevated land.

There has been an increase in grazing over recent years, particularly in less favourable areas. © John Morrison

SEO 2

SEO 2: Manage flood plains and wetland habitats to regulate water flow and availability, and to enhance water quality and biodiversity. Increase the river and riparian habitat networks, for example along the Calder, the Don and the Colne in the north and along the Sheaf, the Rivelin and the Loxley in the south, and ensure good linkages with the networks of woodland and semi-natural habitats for the species they

support and to improve the resilience of these habitats to climate change.

For example by:

- Restoring natural river dynamics and profiles where possible, enabling more active geomorphological processes such as the creation of meanders.
- Extending flood plains to store floodwaters, in particular along the Calder, the Colne and its tributaries around Huddersfield, and the Don, and restoring and creating riparian habitats such as emergent vegetation, wet pastures, reedbeds, marsh and wet woodlands that will reduce peak flow rates and help to improve water quality.
- Seeking opportunities to create and link wetland habitats, including wet woodlands and grasslands along river corridors. Introduce riparian
  trees and wet woodland along watercourses, but avoid long, continuous stretches of tree cover.
- Seeking opportunities to slow river flows by planting flood plain woodland.
- Encouraging low-input grassland management and extensive grazing regimes, along with permanent grass buffer zones, to reduce water pollution and sediment run-off.
- Restoring and creating lowland meadows within valleys, linking and buffering existing habitat patches to create a permeable network through the landscape that will help species to adapt to climate change and aid in water quality and flow regulation.
- Minimising development on the flood plain where possible, to allow more space to deal with floodwater more naturally.
- Promoting efficient use of water in agriculture and industry to reduce need for abstraction, such as grey water use on industrial sites and infield ponds on farms.
- Extending and linking native broadleaved woodland, particularly on steep valley sides and in cloughs and gills, to absorb water,

thereby reducing flood issues and binding the soil to reduce erosion and to enhance water quality.

- Restoring Plantations on Ancient Woodland Sites (PAWS) and encouraging appropriate management of PAWS and ancient semi-natural woodlands.
- Creating areas of semi-natural habitats and managing water flow to increase water recharge of aquifers and reservoirs, to maintain adequate water supply and to help to address the problem of increased rainfall as a result of climate change.

Bog habitat © Natural England

SEO 3

SEO 3: Protect the distinctive landscape character with its contrasts between open pastures on hill tops, woodland on valley sides and the settlements nestled in the valley bottoms. Manage the arable and pastoral farmland and the areas of woodland to improve their contribution to biodiversity, food provision and landscape character, to improve soil and water quality, and reduce soil erosion.

For example by:

- Conserving areas of upland heath, creating new habitat next to these areas to buffer and extend them. Encourage appropriate management of upland heath habitat to support wildlife.
- Seeking opportunities to manage pastures to increase their species richness and create mosaics of grassland habitats,

providing variation in structure, hydrology, texture and species richness, to offer feeding, breeding and refuge sites for birds such as lapwing, redshank, curlew, snipe, yellow wagtail and twite, especially in the west, alongside the SPA.

- Maintaining permanent pastures and introducing extensive or variable grazing regimes with low inputs of fertilisers to improve soil structure and water infiltration.
- Maintaining and restoring drystone walls, especially where they form clear historical patterns and/or are widely visible.
- Maintaining and managing hedgerows on lower land where they are the typical form of field boundary and where they can help to reduce soil erosion.
- Introducing a wider range of semi-natural habitats in arable areas, in particular permanent grassland margins, and linking them to existing areas of lowland meadow and to the wider species-rich grassland resource where possible. This will help to deliver improvements in soil quality and reduce soil erosion.
- Encouraging arable options such as conservation headlands and pollen and nectar swards that will support farmland birds and provide structural diversity and food sources for pollinating insects.
- Encouraging the creation of grass buffer strips alongside watercourses to reduce soil erosion and water pollution.
- Identifying opportunities for educational access to farms, to enable local urban populations to understand farming practices and enjoy access to the open air and countryside.
- Maintaining the open character of the high plateaux in the west to allow retention of long views over the eastern edges of the NCA and beyond and the sense of isolation and tranquillity.
- Maintaining the character of individual settlements by managing the rural land surrounding cities and towns, to retain the wild and open sense of place and the juxtaposition between urban and rural.
- Promoting sustainable food provision in the NCA to increase production, while reducing impacts on other ecosystem services.

- Managing existing woodland to ensure the long-term survival of wood of mixed age groups and the increased production of wood fuel and timber.
- Replacing non-native species with native broadleaved species where the primary interest is improving biodiversity and contributing to landscape character.
- Bringing attention to archaeological and historical features of woodland such as internal banks to organise coppicing, bell pits and charcoal-burning platforms.

Small waterfall in woodland © Natural England

SEO 4

SEO 4: Plan to optimise opportunities for access to the natural environment for the large urban populations in the area, making the most of key landscape features to redefine sense of place in the changing landscape and encouraging implementation of well-designed and managed green infrastructure, sustainable urban drainage systems and good use of planting to screen urban edges.

For example by:

- Maintaining access to the natural environment through links to the footpath network, and promoting new links to the Trans Pennine Trail and the Calderdale Way long-distance routes.

- Promoting the use of canals and disused railways as linear access routes that can open up access to the wider countryside while also providing a link to historical interest and improving biodiversity.
- Ensuring that the dramatic views are retained both from hill tops into and across the urban areas, and from urban areas out into the countryside.
- Improving access to open geological landform and exposures to provide interpretation of their role in the history of the area, for example at disused quarries, making the link between extraction of minerals and the prevalence of industrial development in the area.
- Encouraging increased access to farms and rural estates, parks and gardens, as appropriate.
- Ensuring that existing urban areas and new residential development contains well-designed and managed green infrastructure to provide a range of access experiences, taking into account the different cultural needs, abilities and interests of the local urban populations.
- Ensuring that all new development addresses sustainability, through keeping impervious surfaces to a minimum and including sustainable drainage systems that incorporate more permeable surfaces, greenspace and swales, to improve water infiltration and hold back run-off.
- Protecting the role of the greenbelt in retaining settlement distinction and the urban and rural mosaic feature of the NCA, and encouraging use of planting and biomass to screen urban edges.
- Managing horse and pony grazing to reduce soil compaction and erosion and the degradation of pasture land.

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View from Castle Hill. © Natural England

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Yorkshire Southern Pennine Fringe - Analysis: Landscape Attributes & Opportunities

Analysis supporting Statements of Environmental Opportunity

The following analysis section focuses on the landscape attributes and opportunities for this NCA.

Further analysis on ecosytem services for this NCA is contained in the **Analysis: Ecosytem Services** section.

Landscape attributes

Underlying geology of Coal Measures with harder gritstones in the west.

Justification for selection:

- Geology provides building stone as well as resources of iron and coal, fireclay and roadstone leading to the development of the wool and iron industries.
- Strong visual unity created by the widespread use of local stone for walls, traditional farm buildings, hamlets and settlements, including 19th-century terrace housing for mill workers, and for much of the fine civic architecture, giving rise to a strong sense of place, and connection with heritage.

A transitional landscape with a strong landform of treeless hilltops dropping down from the Pennines in the west, dissected by steep-sided valleys down to valleys with woodland on side slopes.

Justification for selection:

- Deeply incised river valleys show distinct shoulders where they have cut down from earlier broader valleys; narrow valleys open out as they descend to the east.
- The open hills and wooded valley sides create clear visual backdrops to the urban areas and industrial buildings and help to bring a sense of unity to the area, connecting urban with rural and creating a strong sense of place.
- High plateau gives rise to long views out over urban areas, whilst there are often views from within urban areas out to surrounding hills and valleys, so that urban and rural are clearly linked, giving rise to a strong sense of identity and place.

Urban areas dominate with striking city centres and extensive development through the ages

Justification for selection:

- Striking municipal buildings built from wealth generated by local industry.
- Dense urban development, especially in city centres and terraces built to house mill and mine workers.
- Importance of city parks in providing access and recreation opportunities for the factory workers.
- Greenbelt is important for retaining the distinction between settlements and sense of place.
- Infrastructure that feeds and supports urban areas such as railways and motorways cross the landscape.

Clear evidence of historical development over time, in particular 19th and 20th centuries, with early industrial forges and mills, then later large mills, chimneys, factories and associated housing.

Justification for selection:

- The significant cultural heritage from the industrial period with its large stone buildings is a key characteristic of this area.
- Interpretation of cultural heritage contributes to understanding and appreciation of history and our links to it.
- Strong sense of identity is created by close links between settlements and industry – woollen towns to the north, manufacturing to the south – which is reinforced by retaining iconic elements.

Substantial towns, many with fine civic architecture built by wealthy industrialists in town centres, giving strong urban identity.

Justification for selection:

- Over 5,000 listed buildings reflect the widespread occurrence of significant and robust structures, many from the period of industrial development.

- 20 Registered Parks and Gardens also reveal the industrial wealth that was used to build stately homes and designed grounds.
- The importance of the setting of the urban areas is indicated through 68 per cent of the area being designated as greenbelt.

Earlier historic periods revealed through bronze-age and Roman habitation on uplands, and old pack-horse routes linking settlements on either side of the Pennines.

Justification for selection:

- The 47 Scheduled Monuments in this NCA include several early industrial workplaces, as well as carved rocks, wayside crosses, moated houses and Romano-British settlements.

Strong pastoral character to the west, including a strong pattern of drystone walls, with a transition to more arable land to the east where hedges are more common on the lower-lying land.

Justification for selection:

- Predominance of livestock rearing, due to majority of land being Grade 4.
- Some areas between Bradford and Huddersfield are Grade 3, and are cultivated for arable crops and improved grassland.
- Upland heath, lowland meadows, upland calcareous grasslands and purple moor grass and rush pastures are priority habitats predominant in this NCA.
- Mosaics of upland pastures support a wider range of plant and animal species, and the pastoral western part of this NCA can be considered an important support zone for the internationally designated SPAs and SAC of the adjacent Southern Pennines, especially in providing feeding areas for waders and twite. Western parts of this NCA are included in the Integrated Biodiversity Delivery Area.

- On some parts of the upland plateau, the pastures are enclosed into regular rectangular fields, which are highly visible within the wider landscape, such as around Penistone.

Good opportunities for enjoying landscape through high density of footpaths, and two significant long-distance paths.

Justification for selection:

- Relatively high density of 2.25 km of public rights of way per km2, in an area with extensive towns and villages (36 per cent of the area), creates plenty of opportunity for local populations to access the natural environment and its cultural heritage.

Landscape opportunities

- Manage existing sites and plan for expansion sites to improve upland pastures to create mosaics of species-rich pastures and rushy pastures, to increase biodiversity (plants and insects in particular) and provide feeding and breeding opportunities for birds (especially waders, twite).
- Plan to increase areas of woodland, particularly on steep slopes and areas where they can help hold back floodwaters and provide flood attenuation services.
- Encourage increased access to and understanding of the natural environment, using existing networks of paths, creating links where appropriate, and in particular to address the needs of people living in densely populated urban areas.
- Plan to create and link wetland habitats in river valleys along the rivers Calder and Don, to strengthen landscape character and to improve connectivity for species and enhance biodiversity, and strengthen links between towns and surrounding urban areas. Manage existing wetland habitats so that they contribute to landscape character and biodiversity.
- Encourage any new developments to retain the distinctive character of each settlement and to incorporate green

infrastructure that will contribute to biodiversity and provide opportunities for enjoyment of the natural environment

- Plan interpretation of the rich cultural heritage, especially of the 18th and 19th centuries, to enable more people to understand and appreciate their cultural heritage or different histories.
- Protect pastoral character of western areas, with their mosaics of pastures under varying intensity of management, rough grasslands, meadows and strong patterns of drystone walls.
- Manage and restore drystone walls in the upland pasture land in the west of the NCA and hedgerows in the lower-lying land to the east of the NCA as the dominant field boundary features.
- Protect evidence of heritage from the industrial era, retaining key and iconic buildings.
- Protect the strong visual unity created by widespread use of local stone from walls and traditional farm buildings to civic architecture and town centres and the individual character of the different towns and clear patterns of settlement.
- Protect archaeology and ground features, such as late iron-age/Romano-British period cropmarks and earthworks of enclosed and unenclosed farmsteads with round houses, rectilinear field systems and strip lynchets.
- Protect historic features such as pack-horse routes and traditional farm buildings.
- Protect visible evidence of underlying geology, both by preventing the obscuring of landform and by keeping key views of landform and features open, including rock exposures in quarries. Liaise with quarry owners and land owners to provide access and interpretation of these features where possible.
- Manage conversion of vernacular buildings to ensure retention of key features and use of traditional materials, to retain visual quality and historic integrity.
- Manage development so that evidence of different periods of history, including the early industrial sites, is retained and conserved, and its significance interpreted.
- Manage existing woodlands to enhance production of biomass, retain historic features of interest and the importance of historic

woodlands as features of the landscape.

- Manage arable areas so that they protect and maintain watercourses, historic ground features, hedges, hedgerow trees, riparian trees and other habitats.

Access Options

We're the government's adviser for the natural environment in England. We help to protect and restore our natural world.

Natural England is an executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs.

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