

Land at the west of Smithy Bridge Road

Landscape and Visual Impact Assessment

Appendix B

Extract from National Landscape Character Area NCA 54 – Manchester Fringe

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Prepared for:



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Summary

The Manchester Pennine Fringe occupies the transitional zone between the open moorlands of the Dark Peak and Southern Pennines, and the densely populated urban conurbation of Manchester. The area wraps around Manchester from Bolton in the north-west to the edge of Hazel Grove in the east, and includes the industrial towns of Bury, Bolton, Rochdale, Oldham, Dukinfield and Glossop.

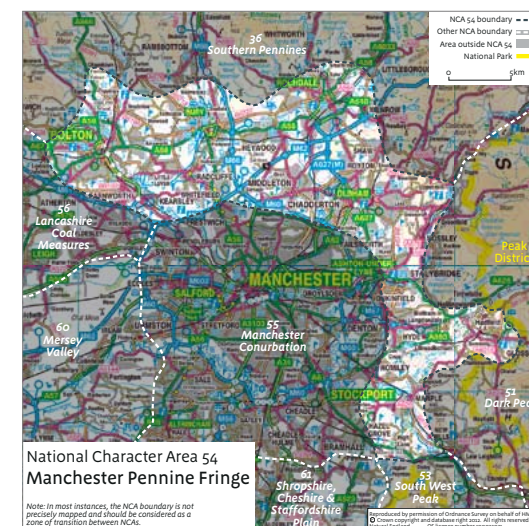
This transitional area runs along the edge of the Millstone Grit of the Pennine uplands, and is underlain by Carboniferous Millstone Grit and the Pennine Coal Measures, which broadly dip to the south-west. The area owes much of its character to its proximity to the adjacent Pennine moors, and the deeply incised, steep valleys that characterise the transition from moorland to urban area. The elevation of the area is generally between 100 m and 300 m, between the lower plains and higher Pennine moors.

Much of the countryside is influenced by recreational use from adjacent urban areas and also by the diversification of farmland. The river valleys, upland hinterland and proximity of urban development all contribute to the area's distinct Pennine fringe character.

The natural distribution of habitats throughout the area has been heavily modified by human activity over centuries, especially since the Industrial Revolution. Woodland is concentrated in narrow, steep-sided valleys that cut into smooth shoulders of pastoral land, but it also extends along whole river valleys. In recent years, community woodland has been created in the urban areas. Rivers and canals are also an important feature of this area, providing transport routes and links to industrial heritage, as well as important sites for biodiversity. The

Rochdale Canal is internationally important as it supports floating water-plantain. Large tracts of the South Pennine Moors and Peak District Moors internationally important sites and supporting habitat are adjacent to this fringe area. Part of the Peak District National Park lies within the Manchester Pennine Fringe NCA, as does the Pennine Bridleway National Trail, offering increased opportunities to encourage visitors to engage with and enjoy the local environment.

Challenges from development, transport links and recreation are significant in this fringe area. However, there are opportunities to improve habitat quality, distribution and connectivity, provide better water quality and storage, minimise erosion, and increase carbon storage and recreational provisions. This can strengthen landscape resilience and adaptation to climate change, and manage increased tourism and recreational demand, while promoting the positive benefits that contact with nature affords.



Click map to enlarge; click again to reduce.

Statements of Environmental Opportunities:

SEO 1: Manage, enhance and expand the network of green infrastructure (such as rivers, woodlands, restored industrial sites, parklands and canal routes) within the urban areas, to increase biodiversity, strengthen access and recreational use, and increase understanding of the area's rich industrial heritage, natural heritage and geodiversity.

SEO 2: Sustainably manage and enhance the distinctive features of the Pennine fringe landscape, including the predominantly pastoral agricultural land use, the mosaic of farmland and upland fringe habitats, the clough woodland, the drystone walling and the gritstone buildings, to strengthen the landscape character, and improve habitat condition and connectivity, bringing benefits for water quality and reduced soil erosion.

SEO 3: Manage and continue to enhance Manchester Pennine Fringe's characteristic watercourses, such as the fast-flowing rivers and restored canals; conserve and extend the associated riparian habitats, to strengthen their role, extend and link habitats, manage flood risk, improve water quality and reduce soil run-off, and provide opportunities for recreation.

SEO 4: Manage existing woodlands and community forests, and extend broadleaved woodland cover in appropriate locations, to help mitigate the effects of climate change, improve biodiversity, reduce the impact of new development, and provide access to nature and green infrastructure links into urban areas.



Canals are an important feature of this area, providing transport routes and links to industrial heritage, as well as important sites for biodiversity.

Description

Physical and functional links to other National Character Areas

The Manchester Pennine Fringe NCA occupies the transitional zone between the open moorlands of the Dark Peak and South Pennines, which lie to the east and north respectively, and the densely populated areas of the Manchester Conurbation NCA and the Lancashire Coal Measures NCA, which lie to the south and south-west.

There are prominent views from urban settlements looking up the Pennine slopes towards the adjacent South Pennine Moors and the Dark Peak. Equally, looking down from the foothills of the moors provides extensive views across to the adjacent Manchester Conurbation NCA and Lancashire Coal Measures NCA. The high rise of Manchester city centre is a visual landmark.

Numerous rivers flow through the area, including the Irwell, Roch, Goyt, Tame and Etherow, which drain down through this area from the adjacent uplands of the Dark Peak and Southern Pennines towards the lowland Manchester Conurbation and Mersey Valley NCAs, ultimately flowing into the Mersey Estuary and the Irish Sea. These rivers are important links between the uplands and lowlands, in terms of ecological connectivity as well as water management.

The demand for recreation – both within the Manchester Pennine Fringe NCA and from neighbouring NCAs – is high, due to the closeness of the Manchester Conurbation. The Pennine Bridleway National Trail provides an opportunity for multi-user access to the eastern extent of the area, providing links to other



Extensive views over the Manchester Pennine Fringe NCA towards the Manchester conurbation.

NCAs along the edge of the Pennines. There is evidence of the diversification of farming into a range of urban-related uses.

Historic trans-Pennine communication routes, especially railways and canals, connect with surrounding NCAs. A large number of A-roads and motorways (including the M60, M62 and M67) cut through this NCA, connecting the towns of Bolton, Bury, Glossop, Rochdale, Oldham and Dukinfield, and bypassing the city of Manchester. The closeness of the adjacent Manchester Conurbation NCA is reflected in the fact that many of the settlements act as 'satellite towns'. The modern tram and busy public transport networks link the Manchester Pennine Fringe NCA with Manchester city centre.

Key characteristics

- Transitional zone between elevated, open moorlands and densely populated urban areas on lower ground.
 - Landform is a transition from upland to lowland, with smooth shoulders of land divided by steep-sided valleys with fast-flowing rivers.
 - Elevated vantage points provide extensive views across the adjacent Manchester Conurbation NCA.
 - Fringe area underlain by the Carboniferous Coal Measures rising to the north and east, into the Carboniferous Millstone Grit uplands.
 - Several rivers flow through the area from the Pennine uplands, linking with adjacent lowland areas.
 - Woodland cover is characterised by a range of woodland types concentrated along river valleys, as well as some newer community woodlands in the urban areas.
 - Field boundaries include dry 'gritstone' walls at higher elevations and hedgerows at lower elevations.
 - Limited semi-natural habitats include broadleaved mixed and yew woodland, lowland dry acid grassland, lowland meadows, lowland heathland, and purple moor-grass and rush pasture, which are often fragmented.
 - Extensive evidence of 18th- and 19th-century stone and brick-built industrial buildings, including mill lodges and reservoirs originating from the woollen and cotton industries.
 - Historic trans-Pennine communication routes, especially railways and canals.
- Much of the countryside is influenced by recreational use from adjacent urban areas and the diversification of farmland, giving the area a distinct urban fringe character.
 - High population densities across a belt of industrial towns, with busy transport networks and motorways. Almost half of this NCA is classed as urban.



Visitors enjoying Burrs Country Park.

The Manchester Pennine Fringe today

The Manchester Pennine Fringe runs along the edge of the Millstone Grit uplands of the Southern Pennines and the Dark Peak. This fringe area has been carved partly from the Millstone Grit and partly from the overlying Coal Measures, all of which dip south and west off the high ground and beneath the Manchester plain. Glacial drift cover is extensive only on the lower ground.

The Manchester Pennine Fringe owes much of its character to its pronounced landform (deeply incised, steep valleys, and localised woodlands) and to its proximity and visual links to the adjacent Pennine moors. The elevation of the area is generally between 100 m and 300 m, between the lower plains and higher Pennine moors. The character of the area is shaped by a combination of historical mineral extraction, industrial heritage, some agricultural land and large areas of urban land use; 46 per cent of the Manchester Pennine Fringe is defined as urban, all against a backdrop of the Pennine uplands.

The higher slopes to the north and east of the Manchester Pennine Fringe form the transition to the open moorland of the South and West Pennine Moors and the Peak District Moors, ecologically linking this fringe area with the uplands. Extensive tracts of the South Pennine Moors and Peak District Moors internationally important sites are adjacent to this NCA. This moorland vegetation, characteristic of the southern Pennines, is of particular importance for supporting breeding bird populations, including breeding merlin, golden plover, curlew and twite.

The rivers Irwell, Roch, Goyt, Tame and Etherow flow through the area in narrow, steep-sided valleys. Canals, such as the Rochdale Canal and Huddersfield Narrow Canal, cross the area, with steep flights of locks climbing from the Manchester



Nob End Site of Special Scientific Interest (SSSI), a species-rich grassland which has colonised a former waste tip.

plain up to the Pennines. For much of its length, the Peak Forest Canal runs alongside the River Goyt, joining the Macclesfield Canal at Marple Locks.

Pockets of clough woodland remain in the narrow, steep-sided valleys. The Red Rose Community Forest covers the western part of the area. The Pennine Edge Forest is a woodland and environmental initiative for the eastern fringe. The forests provide a network of green spaces and woodlands to enhance biodiversity and environmental quality, increase recreational opportunities and improve access to the countryside.

The natural distribution of habitats throughout the area has been heavily modified by human activity over centuries, including commercial or residential development, and agriculture. All of the most important habitats have been affected and some, such as ancient woodland and heathland, have been much reduced from their original extent. Limited semi-natural habitats include broadleaved mixed and yew woodland, lowland dry acid grassland, lowland meadows, lowland heathland, and purple moor-grass and rush pasture, which are often fragmented.

Past industrial activities in the Manchester Pennine Fringe have left a variety of sites, such as quarries, mill lodges, reservoirs, canals and spoil heaps, which are now valued for their biodiversity and geodiversity. This has left sites such as Nob End Site of Special Scientific Interest (SSSI), a species-rich calcareous grassland of national importance, which has colonised a former alkali waste tip. The NCA contains much of the Rochdale Canal Special Area of Conservation (SAC), which is of international importance for its significant population of floating water-plantain *Luronium natans*. The Huddersfield Narrow Canal SSSI is one of the best examples of a flowing eutrophic water system in Greater Manchester.

The marginal farmland, which is usually in close proximity to urban development, contributes to the area's distinct urban fringe character. Stone walls, narrow winding lanes and the area's traditional stone architecture give a consistently upland feel to these areas. The lower, steeply undulating foothills to the fringes are of variable quality grassland, with some small hedges and walls to irregular fields enclosed by the 19th-century wooded valleys, and scrub on steeper slopes. Stock rearing and rough grazing is practised in a regular pattern of fields enclosed in the late 18th and then the 19th centuries, varying in size with topography. Farming with sheep flocks is the most prominent enterprise on both the improved grassland on the lower slopes, and the unimproved grassland higher up, towards

the moorlands. At the southern end of the profile area, cattle grazing and dairy farming start to become evident. Farm diversification and recreational demands have led to a change in the physical appearance of the countryside, as it has moved from a traditionally farmed environment to one capable of supporting a range of recreation activities.

Agricultural land is predominantly Grade 3 and Grade 4, with silt and gravel deposits or sand and gravel, sandstone or mixed deposits. Soils are primarily slowly permeable, seasonally wet, acid, loamy and clayey soils, with some freely-draining, slightly acid, sandy soils and freely-draining, slightly acid, loamy soils.

The urban areas lie at a transition between the upland fringe and lowland landscapes. At the transition into upland there is a strong delineation between the edge of settlement and the countryside, however its lowland extents merge into a wider urban massing. Extensive long-distance views are possible from elevated vantage points across urban development in the valleys. There is a close intermingling of industry and settlement, including at Bolton, Bury, Glossop, Rochdale, Oldham and Dukinfield, along with remaining fragments of farmland.

The urban area owes its size and importance largely to the development of the cotton trade, but also to coal mining and engineering, and to the communications network that radiates from it. Much of the area has seen evidence of industrial activity resulting from naturally occurring minerals, including coal and ironstone mining, glass making and stone quarrying. Settlements typically have agricultural origins, later developing into mill towns and ultimately becoming more general in character, with modern mixed residential and industrial uses.

Stone and brick industrial buildings, mills and reservoirs from the 18th and 19th centuries, located along the valley bottoms, are important heritage sites. Some old

cotton mills have found alternative uses, but many are derelict and some have been pulled down. While the demolition of industrial heritage has taken place to facilitate urban regeneration, the remaining 18th- and 19th-century urban assets remain a notable feature of the urban character. The Millstone Grit building stone of the Pennine fringe suburbs makes a gradual transition into the characteristic red brick terraces of Manchester. The mix of red brick and sandstone building materials used for the area's industrial and institutional architecture (for example, mill stacks, mill buildings and railway viaducts) contributes to the overall sense of place.

The high population densities across the belt of industrial towns and the busy transport networks result in urban areas having low tranquillity. The open spaces and canals offer areas of relative tranquillity, allowing people to reconnect with nature at a local level.

Much of the countryside is influenced by recreational use from adjacent urban areas, and by the diversification of farmland into uses such as haulage and riding schools. In recent years there has been an increase in the demand for recreational activities such as walking, cycling and horse riding, with many disused railway lines now being used as walking and cycling routes. Busy trans-Pennine transport routes (especially railways, canals, A-roads and motorways) cut through this area, reflecting the nearness of the adjacent Manchester conurbation. Well-used routes act as important travel trajectories across the Pennines and between urban conurbations. A large number of busy A-roads and motorways cut through this NCA, connecting the towns of Bolton, Bury, Glossop, Rochdale, Oldham and Dukinfield, and bypassing the city of Manchester. Five canals run through the area, forming part of the rich industrial heritage of the Manchester Pennine Fringe.

The Pennine Bridleway National Trail passes through this NCA, while the Peak District National Park, designated for its spectacular landscapes, cultural heritage



Farmland has diversified, often into uses such as horse grazing.

and wildlife, lies to the east of the area. The area is adjacent to the extensive open access areas of the Southern Pennines. There are also a number of local nature reserves, country parks and registered parks and gardens. These all provide increased opportunities for local communities and visitors to engage with and enjoy the natural environment.

The Landscape through time

The Manchester Pennine Fringe is a predominantly low-lying area underlain by the Carboniferous Coal Measures of the Lancashire Coalfield, and rising (to the north and east) into the Carboniferous Millstone Grit uplands of the Southern Pennines and Dark Peak. Much of the underlying geology is covered in more recent glacial and post-glacial gravels, sands, silts and clays.

The Millstone Grit (316–327 million years ago) was deposited as part of a river system that gave way to the more marginal coastal environment of deltas, estuaries and swamps, with occasional marine inundation. The Pennine Lower and Middle Coal Measures (308–316 million years ago) deposited the sandstone, silts, clays and coal seams that underlie much of the area. Mountain building towards the end of the Carboniferous created the Rossendale anticline to the north, and the Pennine anticline to the east, and tilted the sequence of Carboniferous rocks, which get progressively younger towards the south-west.

During the Quaternary, the area was periodically covered by thick ice sheets and glaciers. The last ice advance and retreat during the Devensian (26,000 years ago) left behind a thick sequence of glacial till, gravel and sand, which today conceals much of the underlying solid geology. The presence in the glacial till of rocks originating from the Lake District indicates that the main ice sheet originated in the Irish Sea, although there is also evidence of more local glaciers flowing off the Pennines. Significant volumes of meltwater flowing from the retreating ice sheets left extensive fluvial sands and gravels, and deepened many of the river valleys. This contributed to the present steep-sided valley – and, in places, gorge – topography.

Traces of early colonisation of the area survive, chiefly in the form of barrows on high ground. A number of Roman roads crossed the area, linking Manchester with Ribchester in the Lancashire Valleys as well as with Castleshaw and Ilkley in the Southern Pennines. A diverse medieval landscape developed, with substantial surviving woodland in the south, thinning out to the north. Much of the economy of the area was pastoral, with arable cultivation close to the settlements. Fields were mostly enclosed, by private agreement by the 19th century.

The Manchester Pennine Fringe's heritage is largely related to textile manufacture and the infrastructure that grew up to support this sector. Occasional and indirect references to textile manufacture in this area have been found in manuscripts dating from as early as the late 13th century.

Wool from the sheep reared here, as well as flax from the Amounderness Plain, supported the early development of the textile industries in the ring of Pennine fringe towns. In turn, this led to the further, more regular, enclosure of moorland grazing in the late 18th and early 19th centuries.

By 1700, each district within the area was specialising in the production of one type of cloth. The Marple, Hazel Grove and Ashton-under-Lyne areas produced almost all the linen cloth. Bolton was the centre for fustians (a cotton, wool and flax mix), and most woollens and worsteds were manufactured in Bury and Rochdale. The earliest mills were driven by water, so needed to be situated on fast-flowing streams.

The 18th century witnessed not only big increases in the production of these traditional textiles, but also the development of cotton cloth manufacture. By the early 19th century, cotton had almost entirely replaced wool and linen. The

construction of the canal network, including the Rochdale Canal, Huddersfield Narrow Canal and Macclesfield Canal, in the late 18th and early 19th centuries, opened up the area's industries, to bring in raw cotton and take away the finished yarn or cloth. This also enabled coal to be cheaply transported to Manchester and the Mersey for shipment. The area became economically linked with the southern states of America and the port of Liverpool. It is associated with some of the significant early developments of the Industrial Revolution, for example the expansion of canals and railways, and the industrialisation of the workforce.

The development of the steam engine made it possible for mill owners to move from upper valleys and build their new mills where communications and house building were much easier. Archaeological evidence related to these periods of expansion remains visible in the ruins of isolated farms and cottages on the hillsides, and in abandoned sites of water-driven mills in small Pennine valleys.

The landscape of well spaced, nucleated villages, and medium densities of smaller hamlets and farmsteads, was transformed as towns expanded. The growth of the textile industry and a big increase in population produced a concentration of people in the industrial centres in the lower, wider valleys. Mills were extremely water-intensive, and so were clustered around watercourses, sometimes constructing and maintaining their own reservoirs.

Places such as Bolton, Bury, Rochdale, Oldham and Glossop expanded, and by the end of the 19th century had become important and productive mill towns. These towns developed industrial structures, especially the larger mill complexes, as well as associated areas of planned workers' housing, and the villas of mill owners and managers. In the hinterland, agricultural production intensified. The change to cotton production and urban centralisation caused



At Lowside Brickworks exposures of the coals, mudstones and sandstones can be seen.

a shift away from less profitable wool, to provide meat, dairy, arable and horticultural products to sustain the increasing populations.

The Pennine Coal Measures form part of the Lancashire Coalfield, mined throughout the 19th and 20th centuries. They are visible today in disused quarries and where rivers, such as the Irwell and Roch, cut through the overlying glacial deposits. The Millstone Grit upland dominates the edge of the Manchester Pennine Fringe NCA and, during the 19th century, was the main source of building

stone for much of north-east Manchester. Coal Measures brick clays have also been widely exploited as the main source of bricks for many of Manchester's buildings; the disused Lowside Brickworks SSSI reflects this former industry and is important today for both its geodiversity and biodiversity.

The presence of large, sprawling industrial conurbations has a pronounced effect on many of the landscapes surrounding them, with dense settlement patterns and well-used roads in place. Changes associated with agriculture, together with the pressures of development in and around major urban centres, all continue to affect the landscape, giving it a strong urban influence. Today, most of the land between the towns is farmland and is used as permanent pasture.

Recent developments include the expansion of residential settlements and industrial estates, and the expansion of the road and motorway network, all of which are contributing to increasing the urban character of the area. Many mills have been converted into other uses, such as retail and housing. In many areas, farming is now giving way to livery stabling (or horsiculture), particularly around the fringes of settlements. Some of the canal network has been restored and re-opened for recreational purposes. The rivers that helped to facilitate the Industrial Revolution (and became polluted with industrial waste and devoid of fish as a result) have been subject to a number of improvement initiatives: many are now host to recreational activities, such as angling and canoeing. The Red Rose Community Forest and Pennine Edge Forest initiatives have been established to take forward community forestry as an opportunity to improve the area's environmental image and to improve the overall quality of life. Because of its proximity to urban areas, the countryside continues to be well used by local people. It provides sensory environments that allow public participation, understanding and enjoyment of the natural environment, and that provide benefits for health and wellbeing.



The Rochdale Canal restored and re-opened for recreational purposes as well as an important site for nature conservation.

Ecosystem Services

The Manchester Pennine Fringe NCA provides a wide range of benefits to society. Each is derived from the attributes and processes (both natural and cultural features) within the area. These benefits are known collectively as 'ecosystem services'. The predominant services are summarised below. Further information on ecosystem services provided in the Manchester Pennine Fringe NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision:** The Manchester Pennine Fringe provides medium- to low-grade agricultural land (14 per cent is Grade 3 and 39 per cent is Grade 4), which predominantly supports livestock rearing. There is also some dairy farming. Some 46 per cent of the NCA is urban.
- **Timber provision:** There are some opportunities for small-scale timber and wood fuel production for local use.
- **Water availability:** Principal surface water resources within the Manchester Pennine Fringe NCA are the rivers Irwell, Roch, Tame, Goyt and Etherow. The majority of the water abstraction in the area is used for industrial purposes, such as chemical, construction, metals and mineral, mining, leather and textiles. Abstraction for public water supply and supplying the canals is also significant.

Regulating services (water purification, air quality maintenance and climate regulation)

- **Climate regulation:** The pockets of carbon-rich soils in this NCA are very important to conserve, providing a carbon storage function. The area of woodland cover (3,699 ha) has a role in sequestering and storing carbon.

There are opportunities for habitat management, restoration and creation to enhance climate regulation.

Regulating water quality: The many steep, fast-flowing streams and rivers result in high levels of run-off, especially after heavy rainfall, with consequent erosion and increased sediment load impacting on areas downstream. Appropriate management, as well as extending some habitats, can capture sediment run-off and improve infiltration, benefiting water quality both within this NCA and downstream.



Development adjacent to the River Irwell.

- **Regulating water flow:** There is a risk of fluvial flooding along the narrow river valleys where settlements have typically developed, and within adjacent downstream NCAs. Upstream land management practices that increase vegetation cover and sward roughness can increase the infiltration, interception and evapotranspiration of water and slow surface flows locally. There is some scope to improve flood mitigation by intercepting and retaining water for longer within key locations in river catchments. There are also opportunities for managing surface water, such as integrating sustainable urban drainage systems into development.

Cultural services (inspiration, education and wellbeing)

- **Recreation:** The NCA has significant recreational and potential health benefits. Recreation is supported by the area's extensive rights of way network, as well as open access land. The access network, including the Pennine Bridleway National Trail and the Irwell Sculpture Trail, is particularly important in allowing links from urban areas to the wider countryside. Any improvements to the access network would allow greater public participation, understanding and enjoyment of the natural environment. Given the NCA's proximity to Manchester, the countryside is heavily used for recreation, including angling, horse riding, golfing and walking. In addition, the Red Rose Community Forest and Pennine Edge Forest are in this NCA. The proximity to a large urban population gives opportunities for recreational use and tourism.
- **Sense of place/inspiration:** The backdrops of the Pennine uplands on one side of this NCA, with the Manchester Conurbation NCA on the other, create a strong sense of place, as does the area's industrial past. The sense of inspiration and escapism is constrained by urban development and industrialisation, however in some places there are extensive long-distance



Recreation is supported by the area's extensive rights of way network.

views from elevated vantage points across urban development in the valleys to the Pennine Moors and Manchester conurbation. This, combined with the area's industrial background (largely based on the textiles industry), gives a distinct mill-town feel. A sense of inspiration may also be derived from the strong industrial archaeology of the area. Millstone Grit building stone and red bricks give a strong sense of identity to the villages and urban areas, and are intimately associated with the landscape. Similarly, communities value their local green spaces as places of local distinctiveness that provide opportunities to engage with nature close to where they live and work, and that help to encourage a sense of community.

- **Sense of history:** There is a wealth of industrial heritage within the NCA, reflecting the area's strong links to the textile industry during the Industrial Revolution. Aspects of the historic environment most evident to the general public are the canal network, and the many industrial buildings and large mill complexes. The connection between geology and the industrial heritage include the historical link to coal mining and the underlying Pennine Coal Measures; clay and brick making; the link with sand and gravel extraction; and the Quaternary extensive glacio-fluvial sand and gravel deposits. There are a number of registered parks and gardens, including Heaton Park (Manchester), Smithills Hall (Bolton), Alexandra Park (Oldham), Stamford Park (Stalybridge), Queen's Park (Bolton), and Queen's Park (Rochdale). These all provide opportunities for the historical interpretation of land use changes within the NCA.
- **Biodiversity:** Biodiversity Action Plan (BAP) priority habitats within the NCA are limited in extent, with isolated areas of wet woodland, lowland heathland and lowland meadows. The NCA contains the Rochdale Canal Special Area of Conservation (SAC), while less than 100 ha are nationally designated as SSSI. There are 192 local wildlife sites in the Manchester Pennine Fringe NCA, while 15 Local Nature Reserves fall fully or partly within the NCA, covering 396 ha.
- **Geodiversity:** There are four geological SSSI in this NCA. The area's geology provides a sense of place and history, as well as providing important resources for education and recreation. The history and geology can be explored in locations such as the Glodwick Lows Local Nature Reserve, where a trail passes the Lowside Brickworks SSSI, an exposure of the Upper Carboniferous Pennine Coal Measures.



Clough woodland lines the slopes of the Cheesden Valley, with views over Rochdale and the Pennines in the distance.

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