National Character Area profile:

101. Herefordshire Plateau

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Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper[1], Biodiversity 2020[2] and the European Landscape Convention[3], we are revising profiles for England's 159 National Character Areas (NCAs). These are areas that share similar landscape characteristics, and which follow natural lines in the landscape rather than administrative boundaries, making them a good decision-making framework for the natural environment.

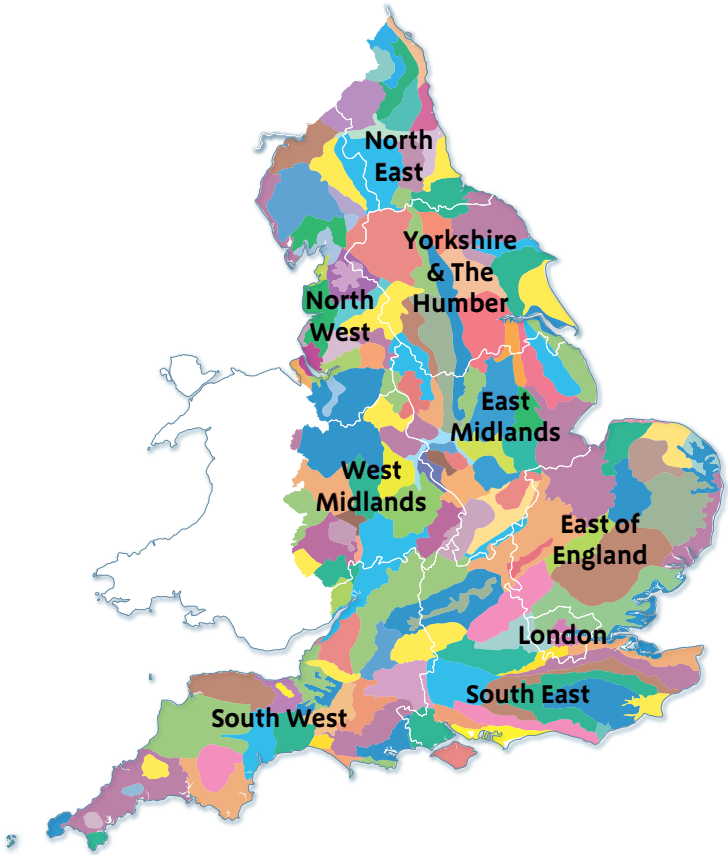
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and encourage broader partnership working through Local Nature Partnerships. The profiles will also help to inform choices about how land is managed and can change.

Each profile includes a description of the natural and cultural features that shape our landscapes, how the landscape has changed over time, the current key drivers for ongoing change, and a broad analysis of each area's characteristics and ecosystem services. Statements of Environmental Opportunity (SEOs) are suggested, which draw on this integrated information. The SEOs offer guidance on the critical issues, which could help to achieve sustainable growth and a more secure environmental future.

NCA profiles are working documents which draw on current evidence and knowledge. We will aim to refresh and update them periodically as new information becomes available to us.

We would like to hear how useful the NCA profiles are to you. You can contact the NCA team by emailing ncaprofiles@naturalengland.org.uk

National Character Areas map



[1] The Natural Choice: Securing the Value of Nature, Defra (2011; URL: www.official-documents.gov.uk/document/cm80/8082/8082.pdf)

[2] Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf)

[3] European Landscape Convention, Council of Europe (2000; URL: http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm)

Summary

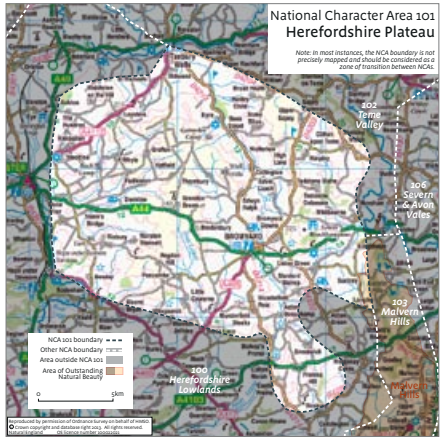
The Herefordshire Plateau National Character Area (NCA) lies mostly within Herefordshire but also extends into Worcestershire. The Herefordshire Plateau rises abruptly out of the Herefordshire Lowlands NCA to the west and south and from the Teme Valley NCA to the north and east, with which the Herefordshire Plateau NCA shares many common characteristics. A deeply tranquil, rural character is one of the treasures of this area, as it has largely escaped the pressures of modern development. It retains much of its historical built character and is sparsely populated with hamlets, isolated churches, small manor houses, local country houses within parks and traditional buildings.

Composed of Old Red Sandstone, the rolling landform and small, narrow valleys overlain with shallow, poor soils and heavier loams and clays give rise to medium- to large-scale arable fields dominating the open, flatter plateau and river flood plains. Smaller and more irregular areas of pasture and mixed farming occupy the surrounding rolling countryside, with hop fields and hop kilns at the outer fringes and timber-framed manor houses dating back to the 14th century.

Woodland, particularly ancient woodland, is prevalent in the east, where there are substantial woodlands along the Teme Valley and steep-sided tributaries. Traditional orchards survive, with notable concentrations in the east and around the settlements of Risbury and Kimbolton, forming part of the larger traditional fruit-growing area in Worcestershire, Herefordshire and Gloucestershire. Many of these orchards contain veteran trees and provide an important genetic resource of many fruit varieties. Traditional orchards are rich in wildlife, providing the UK stronghold for the noble chafer beetle and a rare lichen, the golden eye, believed to have been extinct in the UK, but rediscovered in an orchard in Herefordshire in 2007.

Glacial moraines are found in the west of the area near Stoke Prior and Stretford, which mark the eastern limit reached by the Welsh ice in the Devensian Glaciation. Further east and south are scattered remnant deposits of the earlier Anglian Glaciation. Mesolithic, Neolithic and bronze-age remains are evident on higher ground, and there is a surviving and distinct pattern of dispersed medieval settlement.

Future opportunities and challenges include protecting the area's rural character, wealth of species and habitats, and strong sense of tranquillity, while supporting a working landscape that provides food, homes and recreational opportunities, and which can help to regulate the flow of water into the surrounding valleys and lowlands.



Click map to enlarge; click again to reduce.

Statements of Environmental Opportunity

- **SEO 1**: Protect, manage and enhance the mosaic of semi-natural habitats associated with the Herefordshire plateau – ancient woodlands, traditional orchards, lowland meadows, lowland acid grassland, wood pasture and parkland, common land and traditional hedgerows – to maintain and strengthen their connectivity and landscape character, and to make them more resilient to change in climate while maintaining viable and appropriate agricultural activity.

- **SEO 2**: Protect and appropriately manage the distinctive character of the Herefordshire plateau's landscape, conserving and enhancing the historic landscape character, settlement pattern, geodiversity, tranquillity and sense of place. Protect and maintain the natural geomorphological features and rock exposures that show the strong influence that geodiversity has on the landscape and which can be used as an educational resource to study past climatic conditions. Protect and maintain public access to and the enjoyment of the wider countryside for residents and visitors.

- **SEO 3**: Protect and manage the water environment of the Herefordshire plateau (rivers, streams and other waterbodies) as a multifunctional resource; and conserve and protect the quality and quantity of surface waters through partnership working at the catchment scale, employing positive management practices in and around the catchment to improve water quality, reduce soil erosion, regulate water flow and minimise the impacts of flooding, and contributing to sense of place and climate regulation.

Bluebells on Bromyard Downs. An extensive area of common land, a dominating feature on the landscape. Ecologically it is one of Herefordshire's jewels.

Description

Physical and functional links to other National Character Areas

This gently rolling plateau lies mostly within Herefordshire but also within Worcestershire to the north and east, with abrupt edges down to the Lugg, Teme and Frome river valleys. It is bordered by three other National Character Areas (NCAs): to the north, west and south lies the Herefordshire Lowlands NCA; a small section of its south-eastern boundary borders the Malvern Hills NCA; and to the east is the Teme Valley NCA, with which the Herefordshire Plateau NCA shares a number of characteristics.

The Herefordshire plateau derives its name from its generally level top and the way it rises abruptly out of the Herefordshire lowlands to the west and south. In the south-east its transition from the lowlands is more gradual as it merges, creating a physical link with the northern end of the Malvern Hills NCA and Malvern Hills Area of Outstanding Natural Beauty (AONB). Towards its edges, and particularly in the south and west, the plateau becomes more strongly undulating. There are wide, varied views along the Teme Valley and the surrounding lowlands, in contrast to the shorter horizons and more restricted views of the central plateau. There are particularly notable views from the north-west around Leysters, Bockleton and Middleton on the Hill over to Titterstone Clee Hill to the north and Mortimer Forest to the north-west.

The catchments of the rivers Lugg and Frome extend into the Herefordshire Lowlands NCA to the west, while the River Leadon rises in the Herefordshire Plateau NCA and flows across the Herefordshire Lowlands NCA and South Herefordshire and Over Severn NCA before entering the Severn and Avon Vales NCA at the south end of the Malvern Hills NCA. Following high levels of rainfall, water draining from the Herefordshire Plateau NCA can be rapid, contributing to and resulting in significant flooding in the adjacent Teme Valley NCA – principally at Tenbury Wells – and the Herefordshire Lowlands NCA – at Bodenham, Bosbury and Bishop's Frome, for example.

The A44 runs through the middle of the area, passing through Bromyard, and is an important and much-used link between the West Midlands and Mid Wales. Locally it connects Worcester to the east with Leominster to the west.

Key characteristics

Garmsley Camp showing the western rampart of the iron age hill fort.

- The gently rolling plateau is dissected by small, narrow valleys and streams, such as the Sapey Brook, which are deeply incised into the landscape. The plateau rises to its highest point where the impressive iron-age hill forts of Garmsley Camp and Wall Hills Camp are sited.

- The rocks of the area are the Upper Silurian Raglan Mudstone Formation, with mudstone and some sandstone, and the Lower Devonian St Maughans Formation, with a higher proportion of sandstone, laid down by seasonal streams crossing an arid landscape. Between the two is the Bishop's Frome Limestone, a concentration of calcium carbonate deposited from solution as lime-rich groundwater that evaporated in the hot, dry climate about 400 million years ago. Glacial moraines of the Devensian Glaciation are found in the west of the area near Stoke Prior and Stretford, and scattered remnants of the earlier Anglian Glaciation are found further east and south. The area is overlain with shallow, poor soils. There are heavier loams and clays in the narrow valleys where they have cut into underlying mudstones.

- The River Frome flows north to south, through Bromyard and Bishop's Frome; the River Lodon joins the Frome before its confluence with the River Lugg.

- Medium- to large-scale arable fields dominate the open, flatter ground. Smaller and more irregular areas of pasture and mixed farming are present on the undulating slopes and steeper valley sides of the rivers Teme, Lugg and Frome.

Continued on next page...

Key characteristics continued...

- The area features tranquil ancient woodland, nationally significant areas of lowland meadows, and traditional orchards that support veteran trees, known to be a stronghold for the population of noble chafer beetle (vulnerable in the UK). Wood pasture and parkland, with fine specimens of veteran trees, are linked by ancient species-rich hedgerows, which also support some important veteran hedgerow trees.
- Hop fields and a distinctive square-topped, local type of hop kiln are evidence of the long history of hop growing around the fringes of the area.
- In numerous locations, particularly around Bromyard Downs, hedgerows are notable for their fruit trees, damsons being of particular importance.
- The area features sparsely populated hamlets, isolated churches, small manor houses and local country houses within parks. Most hamlets are dominated by buildings built using local reddish brown and grey sandstones. Timber-frame building tradition can be seen particularly clearly in the late medieval building of Lower Brockhampton House. The settlements are connected by a network of narrow, commonly deeply sunken lanes, a notable historical feature throughout.

Herefordshire Plateau today

The Herefordshire Plateau NCA is dominated by its rolling landform and small, narrow valleys, rising to its highest ground around the iron-age hill forts of Garmsley Camp and Wall Hills Camp (Thornbury), from which steep-sided valleys radiate. Towards its edges, and particularly in the south and west, the plateau becomes more strongly undulating. From all edges of the plateau there are wide and varied views; over the Teme Valley and beyond to the north and east towards the Clee Hills and Malvern Hills; from Hegdon Hill and Fromes Hill in the south over the surrounding lowlands; and towards the north-west Herefordshire hills and the Welsh borders from the west, from Leysters and, again, from Hegdon Hill. The area is overlain with shallow, poor soils, with heavier loams and clays in the narrow valleys where they cut into underlying mudstones. Medium- to large-scale arable fields dominate the open, flatter plateau and river flood plains, while smaller and more irregular areas of pasture and mixed farming occupy the surrounding rolling countryside.

The River Frome, the largest of the rivers in the area, flows north to south, through Bromyard and Bishop's Frome. The River Lodon joins the Frome before its confluence with the River Lugg to the south in the Herefordshire Lowlands NCA; both are of wildlife interest, particularly for higher plants and mosses. The River Teme runs along the northern and eastern boundaries of the NCA. Smaller watercourses drain the plateau, into the main rivers, in all directions.

The NCA is well wooded, with the exception of the top of the plateau. There are significant areas of nationally important ancient and semi-natural ancient woodland, giving the area an arboreal character, particularly in the east, where there are quite substantial woodlands along the Teme Valley and steep-sided tributaries. Ash, field maple and dog's mercury woodland and oak, bracken and bramble woods are two notable woodland types. In addition there are remnants of wet valley woods to be found within the Frome Valley.

Traditional orchard with vibrant green mistletoe. Traditional orchards are rich in wildlife. This and surrounding NCAs provide the UK stronghold for the noble chafer beetle.

Across the NCA traditional orchards supporting veteran trees survive, with notable concentrations in the east and around the settlements of Risbury and Kimbolton, retaining an important genetic resource in a wide range of local fruit varieties. Traditional orchards are rich in wildlife and provide the UK stronghold for the noble chafer beetle. A rare lichen, golden eye, believed to be extinct in the UK, was also rediscovered in an orchard in Herefordshire in 2007. Orchards, particularly veteran trees, provide important nesting and roosting sites, in the form of rot holes, for birds and bats. This NCA and the surrounding NCAs are a key area for mistletoe, which thrives on old fruit trees, lime and poplar. Mistletoe along with annual orchard blossom and fruit displays and occasional hop yards produce striking seasonal features that have strong cultural associations within the area.

Noble chafer beetle which is currently classified as vulnerable in the UK.

Dispersed across the NCA are nationally significant areas of lowland meadows, large areas of wood pasture and parkland that contain some very fine examples of veteran trees, in addition to lowland acid grassland and common land – Bringsty Common being the most significant. A vast number of ancient, species-rich hedgerows are present, and damson hedgerows are characteristic of the area in addition to scattered damson trees among hedgerows and areas of wood pasture and parkland.

The settling of common land created the scatter of dwellings that is typical of so much of the area, particularly away from the better land where hamlets and villages are established. Bringsty Common is the best example of this, but the pattern is also similar around Bockleton, Hatfield, Linley Green, Fromes Hill, Oldwood and Broadheath. Small hamlets with a manor house, manor farm and church close together are a typical feature, with small groups of veteran parkland trees clustered around them. The settlements are connected by a network of narrow, commonly deeply sunken lanes, and the town of Bromyard is the only one of any size.

Most hamlets are dominated by buildings of local reddish brown and grey sandstone, making a significant contribution to the aesthetic quality of the landscape. Some smaller buildings are of rubble construction, although dressed stone is typical in places. The smaller manor houses and larger farms commonly have typical Herefordshire hipped roofs. The timber-frame tradition can be seen particularly clearly in the late medieval building of Lower Brockhampton House. Although red brick has been used widely in more recent cottages and village houses and towards the southern edge of the area, timber-framed buildings survive in significant numbers.

The landscape through time

The undulating plateau of Old Red Sandstone is dissected by many radiating small river and stream valleys, such as the Sapey Brook Valley, which are deeply incised into the landscape; the River Frome Valley is the largest. Some streams were diverted during the ice age, resulting in deep valleys cut by meltwater, such as Hill Hole Dingle. Around the edge of the plateau are some steep slopes, reflecting the underlying geology. The rocks were deposited around 420 million years ago during a period when the erosion of mountains to the west resulted in rivers carrying muds and sands to this area. The oldest rock – Upper Silurian Raglan Mudstone Formation – was deposited by rivers on a coastal plain, flooded occasionally by the sea. Being distant from the eroding mountains, the rivers deposited more mud than sand; therefore there is more mudstone than sandstone in this formation. As time passed and the uplift of the land continued, the area of eroding mountains moved closer, and more sand than mud was deposited by the rivers. Thus, the younger Lower Devonian St Maughans Formation (in the higher land), which overlies the Raglan Mudstone Formation (in the lowland), is predominantly sandstone with some mudstone. Between these two formations lies Bishop's Frome Limestone (a concentration of calcium carbonate deposited from solution as lime-rich groundwater that evaporated in the hot, dry climate about 400 million years ago), marking the break of slope where the land rises steeply.

In the narrow valleys there are springs with small deposits of tufa, which was used locally for medieval carving and occasionally as building stone, as at St Michael's Church, Edwyn Ralph. The limestone is often marked by a line of springs, where water that cannot penetrate the impervious mudstone below emerges on the hillside. Glacial moraines can be found in the west near Stoke Prior and Stretford, which mark the eastern limit reached by the Welsh ice in the Devensian Glaciation. Further east and south are scattered remnant deposits of the earlier Anglian Glaciation.

There have been Mesolithic, Neolithic and bronze-age finds around Bromyard and on the higher ground alongside the River Teme, indicating exploitation of land and later settlement in these areas. The most obvious and prominent prehistoric evidence of human activity is the iron-age hill forts on the higher ground, where Wall Hills Camp, Thornbury, is the most significant. Evidence suggests that many of the ridgetops had been cleared to form the heathlands that characterised the area for much of the medieval period. Roman occupation was more substantial than might be expected for such a remote area, and extensive evidence of prehistoric and Romano-British occupation includes some sections of road, the purpose of which is little understood.

A predominant settlement pattern of very high levels of dispersal is clearly evident by the late 11th century; there are many settlements towards the Teme Valley in common-edge locations, indicating continuing woodland clearance and subsidiary settlement after this period (for example around the fringes of Bringsty Common and Bromyard Downs). Good examples of dispersed (former) common can also be seen at Bockleton and Grafton. Nucleated settlements developed within river and stream valleys and along springlines probably in the 12th and 13th centuries, as Bromyard was developing in this period as the major market centre of the area.

Following the Norman conquest, medieval manorial centres developed, characterised by groupings of a motte, church and later manor house (for example at Edwyn Ralph and Leysters). A fine example is found at Lower Brockhampton, just outside Bromyard. Small clusters of open fields probably surrounded the hamlets, and common meadows lay in the valley bottoms. On the higher, poorer ground there was open grazing and woodland on the steep valleys. Piecemeal enclosure was generally complete by the 18th century, with increasing boundary removal in arable areas. The fields on the higher

slopes were characterised by smaller fields, subdivided principally for stock management, distinguishing them from areas of former extensive open fields (which developed from small common arable cores). The open fields were gradually enclosed, usually by agreement, in a sub-rectangular fashion, creating a landscape pattern that remains to the present day.

Traditional orchards were grown for cider making from at least the 14th century, and hop fields from the 18th century, typically planted on the valley floors and intermixed with arable. Once-extensive traditional orchards are present as scattered remnants, with notable concentrations in the east and around the settlements of Risbury and Kimbolton. There are many hop fields and a distinctive local type of hop kiln, which serve as evidence of the long history of the industry within the area.

There are a number of historic parklands; these include 'ancient' estates (such as Edwyn Ralph) as well as some later ones (for example Kyre and Upper Brockhampton). The area is distinguished by the number of 19th-century houses (often on the site of former manors) such as Whitbourne Hall, Saltmarshe Castle, Bockleton Court and Bredenbury Court (the latter two landscaped by Edward Milner). At Bredenbury the whole village was remodelled, with a new church, vicarage and school. The area has seen a further increase in popularity as a result of the railway that links the area to Worcester and beyond.

Food shortages during and after the Second World War led to intensive farming practices, and areas of unimproved, wet valley bottom grassland were ploughed up. Following the adoption of the Common Agricultural Policy, this trend continued, resulting in dramatic changes to landscape and decline in biodiversity value from the loss of traditional hedgerows and orchards and from unmanaged woodlands. However, agricultural stewardship is now being successfully used as a means of addressing these issues.

A number of model farms were developed in the 19th century but the predominant farm building type is loose courtyard farms, which often have more than one large barn. During the 20th century the larger villages expanded, although the area remains thinly populated. The proportion of farmsteads remaining in agricultural use with diversification is among the greatest in the West Midlands.

Walls Hill Camp, an iron age hill fort which occupies the southern and higher portion of a somewhat flat-topped hill. It encloses an area of about nine hectares.

Ecosystem services

The Herefordshire Plateau 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 Herefordshire Plateau NCA is contained in the 'Analysis' section of this document.

Provisioning services (food, fibre and water supply)

- **Food provision**: The area supports mixed farming. The agricultural census for 2010 indicates that 32 per cent of available farmed land is used for grazing livestock, while 15 per cent is used for cereals. Meat and cereal production are the dominant agricultural activities. This area is known for produce associated with fruit from local orchards in the form of both cider and perry.

- **Water availability**: This area lies within the Severn Vale catchment. The River Leadon and River Frome form the dominant catchments in this area flowing, ultimately, into the Severn Vale. The main demand for water in the catchment comes from agriculture and, to a lesser extent, public water supply. There is 'restricted water available for licensing' in the River Frome and River Leadon.[4] For new surface water licences there is 'no water available for unconstrained abstraction'.

- **Genetic diversity**: Traditional orchards are particularly numerous throughout the NCA, forming part of the larger fruit-growing area of Worcestershire, Gloucestershire and central Herefordshire. They contain a vast bank of genetic material including many historical and scarce varieties and cultivars of apple, pear, cherry and damson.

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

- **Regulating soil erosion**: All the soils in this NCA are at risk from erosion. The slightly acid loamy and clayey soils with impeded drainage are easily compacted when wet and are prone to capping and slaking, leading to soil erosion as a result of surface water run-off, especially on steeper slopes. The freely draining, slightly acid loamy soils are at enhanced risk of erosion on moderately or steeply sloping land where cultivated or bare soil is exposed, exacerbated where organic matter levels are low after continuous arable cultivation or where soils are compacted. Almost the entire NCA lies within one of two Department for Environment, Food and Rural Affairs priority catchments, the River Teme and the River Lugg. Priorities in the Teme catchment include reducing soil run-off from intensive grassland and from cultivated fields. Priorities in the Lugg catchment include keeping livestock out of watercourses to reduce sedimentation as a result of bank collapse, particularly in the 'target area' in which much of the southern half of the NCA lies. Soil erosion and sediment loading are adversely affecting water quality in some rivers; increasing sediment loads are a particular issue in the River Lugg Site of Special Scientific Interest (SSSI) and the River Teme SSSI (just outside the NCA).

- **Regulating soil quality**: Soils are intimately linked to the geology and vary from shallow, poor soils on the plateau top to heavier loams and clays in the narrower valleys. The soils are mostly classified as Grade 3 (58 per cent), with the remaining soils primarily Grade 2 (38 per cent). The soils are susceptible to both compaction and loss of organic content, particularly when ploughed, so sympathetic management is crucial.

- **Regulating water quality**: The rivers in this NCA have a 'poor' ecological status, or have not been assessed. The chemical status has not been assessed. Groundwater chemical status in the NCA is 'good'.[5]

[4] *Severn Vale Abstraction Licensing Strategy*, Environment Agency (February 2013)
[5] *Severn River Basin Management Plan – Annex A: Current state of waters*, Environment Agency (December 2009)

- **Regulating water flow**: The landscape of much of this NCA is a gently rolling plateau, dissected by small, narrow valleys and streams, and is predominantly rural. South of the Teme the land rises to an arc of high ground that extends from Hedgon Hill in the south through Garmsley Camp to Broadheath. From this, steeply incised valleys drain westwards to the Lugg, northwards to the Teme or southwards to the Frome. There is a relatively low level of fluvial flood risk on the higher plateau; however, the plateau sheds water extremely quickly, which can result in severe flooding. Tenbury has been particularly badly affected in the past[6]. In and around Bromyard and south of the NCA (towards Bishop's Frome in the Herefordshire Lowlands NCA), flooding is identified by the Environment Agency as a 'moderate to significant' risk[7].

- **Pollination**: Pollination of crops in this NCA is required for orchard fruit and some arable crops. Hedgerows and traditional orchards also provide additional resource both during blossoming and in the ground flora, if managed appropriately. Hops attract a large number of pollinating invertebrates, although unpollinated and male flowers are preferred for brewing purposes.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration**: Sense of place is provided by the relatively remote, rolling sandstone plateau landform that rises gently to higher ground in the centre, from which numerous steep-sided valleys originate. The longstanding cultivation of fruit and hops provides a strong identity to the area, with numerous hop kilns (many now converted) providing a visual reminder of the cultural link to the hop-growing tradition. Distinctive damson hedgerows are typical of this area, and their visible blossom and distinctive deep purple fruit create a strong identity. Quiet valley-side hamlets and farmsteads are typically linked by narrow, deeply sunken lanes. A sense of inspiration and escapism is also associated with much of the intimate valley landscape, with distinctive views of traditional buildings, hamlets, traditional orchards and woodland and the presence of steep dingles and of running water.

- **Sense of history**: The area is rich in history, ranging from designated historic assets – of which there are 21 Scheduled Ancient Monuments and two Registered Parks and Gardens (Kyre Park and Brockhampton Park) – to the many unregistered parks and gardens of local importance. The history of this landscape is evident in Mesolithic, Neolithic and bronze-age archaeology on the higher ground, as well as in the dispersed medieval settlement pattern and the generally irregular or sub-rectangular field patterns, including some sections of Roman road. Elements of history that are very distinctive are old traditional orchards along the valley floor, hop fields and the local types of hop kiln. Other distinctive features include traditional buildings of local reddish brown and grey sandstone and the use of timber framing in some of the manor houses and the oldest buildings, a fine example being the late medieval building of Lower Brockhampton House.

- **Tranquillity**: Tranquillity is a significant feature of the NCA, with 92 per cent classified as 'undisturbed' according to the Campaign to Protect Rural England intrusion map. The area remains largely unaffected by development and is remote from large settlement and transportation routes, excluding the A roads in the southern half of the NCA. Bromyard is the only settlement of significant size within the NCA. A sense of tranquillity is particularly associated with the steep, wooded valleys and the valley bottom pastures, as well as the woodlands, parklands and orchards on the plateau (which tend to give the area a somewhat arboreal feel) and the traditional hamlets connected by narrow sunken lanes.

[6] *River Severn Catchment Flood Management Plan: Summary Report*, Environment Agency (December 2009)
[7] *Flood Map*, Environment Agency (2010)

- **Recreation**: The NCA contains a number of visitor attractions, including two Registered Parks and Gardens that are partially or wholly open to the public: Brockhampton Estate, which is a National Trust property; and Kyre Park Garden, which has what is said to be probably the world's largest collection of ferns. Recreation is also supported by 647 km of public rights of way, as well as 276 ha of open access land. There are a number of regional trails, such as the Three Choirs Way, the Three Rivers Ride and the Herefordshire Trail, and over 290 ha of common land, of which Bringsty Common is the largest at over 200 ha. Additionally, in the south-east of the NCA lies a small corner of the Malvern Hills AONB, adjoining the Malvern Hills NCA. Bromyard's historical buildings include some very traditional half-timbered pubs, which provide a different type of visitor attraction.

- **Biodiversity**: This NCA is relatively rich in biodiversity, with approximately 9 per cent covered by Biodiversity Action Plan habitats. This is partly associated with its geology, soils and undeveloped nature. There are 50 ha of SSSI, of which approximately 8 ha are in favourable condition, while 42 ha are in unfavourable recovering condition. There are 101 local sites in the Herefordshire Plateau NCA, covering 1,692 ha. The NCA is well wooded, with significant areas of nationally important ancient and semi-natural ancient woodland, particularly in the east, where there are quite substantial woodlands along the Teme Valley and steep-sided tributaries. Traditional orchards are particularly numerous, with notable concentrations in the east and around the settlements of Risbury and Kimbolton. In 2007 the golden eye lichen, previously thought to be extinct in Britain, was rediscovered in Herefordshire (its exact location has not been disclosed). Traditional orchards in this NCA form part of the larger fruit-growing area in Worcestershire, Herefordshire and Gloucestershire, and support England's main population and concentration of noble chafer beetle, which is currently classified as vulnerable in the UK. The orchards are also a key area for mistletoe, which thrives on old fruit, lime and poplar trees. Dispersed across the NCA are nationally significant areas of lowland meadows, in addition to large areas of wood pasture and parkland; a fine example is Brockhampton. Smaller pockets of lowland acid grassland are present in among the common land, of which the best example is Bringsty Common.

- **Geodiversity**: There are 11 Local Geological Sites within the NCA. The geology and geomorphology of the Herefordshire plateau create its distinctive landscape and have shaped the distribution of wildlife habitats and land use. The plateau is dissected by many small valleys and streams (such as the Sapey Brook), which are deeply incised into the landscape (the River Frome being the largest). Some streams had their courses diverted during the ice age, resulting in deep valleys cut by meltwater, such as Hill Hole Dingle SSSI. Fromes Hill, underlain by the more resistant sandstones of the St Maughans Formation, rises steeply above the lowland, which is underlain by the Raglan Mudstone Formation. Between these two formations, an outcrop of the Bishop's Frome Limestone (where the ground rises steeply) is marked by a line of springs emerging on the hillside where water cannot penetrate the impervious mudstone below. This serves as a good example of how topography reflects the underlying geology. Glacial moraines are found in the west of the area near Stoke Prior and Stretford, which mark the eastern limit reached by the Welsh ice in the Devensian Glaciation. Further east and south are remnant deposits of the earlier Anglian Glaciation. The sandstones of the Old Red Sandstone, which vary in colour from red to grey, have been used for dwellings and churches locally. The underlying rocks also give rise to the distinctive colour of soils and their fertility and versatility.

Statements of Environmental Opportunity

SEO 1: Protect, manage and enhance the mosaic of semi-natural habitats associated with the Herefordshire plateau – ancient woodlands, traditional orchards, lowland meadows, lowland acid grassland, wood pasture and parkland, common land and traditional hedgerows – to maintain and strengthen their connectivity and landscape character, and to make them more resilient to change in climate while maintaining viable and appropriate agricultural activity as part of that mosaic.

For example, by:

- Maintaining the current extent of semi-natural and ancient woodlands and introducing active management where appropriate, to improve landscape character, recreation opportunities, biodiversity and geodiversity and increase the benefits they can bring to soil quality and long-term carbon storage, for example along the eastern fringe of Sapey Brook.
- Promoting and supporting opportunities arising from agri-environment schemes, working with landowners and managers to incorporate management of farmland habitats, develop and create networks of new habitats and enhance the rural character of this landscape.
- Restoring the ancient woodland landscape by joining up existing blocks of ancient woodland through woodland planting, thereby reinforcing the woodland feel of the National Character Area (NCA).
- Increasing the extent of native woodland. Protect and manage existing woodlands to improve connectivity between fragmented small woodlands and other habitats; retain and extend wet valley woods within the River Frome Valley; and introduce (or re-introduce) traditional coppice management where appropriate as a source of wood fuel, short rotation coppice or biofuel. This will increase recreational opportunities, as well as carbon storage for climate regulation[8].
- Improving connectivity between woodlands through hedgerow establishment and management where appropriate.
- Protecting and managing the enclosed small-scale field pattern by enhancing the hedgerow network throughout the NCA, retaining, managing, restoring and planting new hedgerows and hedgerow trees in the traditional local style to enhance landscape character and improve habitat connectivity, particularly where this can assist in regulating soil erosion. Damson hedgerows are a particularly distinctive feature of the area (in and around Bromyard).
- Protecting the current extent of lowland meadows, restoring where possible, and where appropriate creating new grasslands to reduce fragmentation, increasing buffer zones and increasing connectivity to other habitats to improve biodiversity and landscape character.

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[8] *Woodland Opportunities Map – Priority for woodland planting based on data from themes,* Forestry Commission (2007; URL: www.forestry.gov.uk/website/forestry.nsf/byunique/infd-6n4gzu)

SEO 1: Protect, manage and enhance the mosaic of semi-natural habitats associated with the Herefordshire plateau – ancient woodlands, traditional orchards, lowland meadows, lowland acid grassland, wood pasture and parkland, common land and traditional hedgerows – to maintain and strengthen their connectivity and landscape character, and to make them more resilient to change in climate while maintaining viable and appropriate agricultural activity as part of that mosaic.

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- Protecting, managing and enhancing traditional orchards to increase the variety of age structure and local varieties, ensuring availability of the genetic resource to enable orchard trees to adapt to the effects of a changing climate. Ensure a continuity of deadwood to support important lichens such as the golden eye lichen, previously thought to be extinct in Britain but found in 2007 in an undisclosed location in Herefordshire, and rot holes to support Red Data Book species and England's main population and concentration of noble chafer beetle, currently classified as vulnerable in the UK. Improve the condition of the underlying grassland to enhance the lowland meadow resource.

- Supporting the Malvern Hills Area of Outstanding Natural Beauty partnership orchard project, funded by the Heritage Lottery Fund.[9] This aims to secure greater community interest and involvement in orchards, to conserve their unique heritage and, ultimately, to help to save this distinctive and threatened part of the three counties landscape (that is, of Herefordshire, Worcestershire and Gloucestershire).

- Maintaining standing dead trees and fallen trees within historic wood pasture and parkland, traditional orchards and hedgerows (where safe to do so), to provide habitats for a range of species including invertebrates, roosting bats and birds. Replant to replace, where appropriate, fallen and decayed ancient, veteran and mature trees, to maintain landscape character and sense of place and to enhance biodiversity.

- Promoting sustainable farm practices to create a farmed landscape that is more permeable to the movement of species and supports a greater range and number of species.

- Integrating environmentally beneficial options into the farmed landscape which will benefit pollinators and help to strengthen the network of habitats in the farmed landscape.

- Managing arable cropping patterns to encourage rarer arable plants, farmland birds and mammals and creating grass and floristically rich margins around arable fields to enhance opportunities for pollinators, while also helping to reduce rapid run-off of water and subsequent soil erosion.

- Protecting common land by controlling bracken and scrub and restoring lowland acidic grassland. Continue to work with communities to re-connect them with common land, as at Bringsty Common, and to explore a combination of new and traditional management practices (such as stock grazing). This will help to create and maintain the structural diversity needed to support the range of plants and animals associated with these habitats and will contribute to the sense of place, history and cultural associations with common land.

- Encouraging the purchase of local produce to benefit local farm businesses, climate regulation (by reducing food miles) and local culture.

[9] www.hlf.org.uk/news/Pages/ThreeCountiesTraditionalOrchardprojectwinssupport.aspx

SEO 2: Protect and appropriately manage the distinctive character of the Herefordshire plateau landscape, conserving and enhancing the historic environment and features, settlement pattern, geodiversity, tranquillity and sense of place. Protect and maintain the natural geomorphological features and rock exposures that show the strong influence that geodiversity has on the landscape and which can be used as an educational resource to study past climatic conditions. Protect and maintain public access to and the enjoyment of the wider countryside for residents and visitors.

For example, by:

- Protecting and managing the historic and cultural heritage assets of the area, including remains from the Neolithic, bronze-age, Roman and medieval periods, and especially the prominent remains on higher ground, such as the iron-age hill forts of Garmsley Camp and Wall Hills Camp.
- Conserving and protecting historic parks and gardens, commons, medieval settlement patterns, distinctive farmsteads and sunken lanes, which also contribute to the tranquillity and sense of place of the area.
- Protecting and managing the longstanding tradition of cultivating fruit and hops that gives the area a strong historical and cultural identity, particularly protecting and managing surviving concentrations of hop fields around Bosbury and Stanford Bishop.
- Restoring or maintaining traditional orchard buildings such as cider houses, which contribute to the sense of place, history and cultural associations of orchards across this area.
- Conserving and appropriately managing the area's rich architectural legacy and distinct pattern of historical dispersed settlement, which includes farmsteads, commoners' and squatters' cottages, scattered hamlets, small manor farms, medieval timber-framed manor houses, traditional local reddish brown and grey Old Red Sandstone buildings and occasionally distinctive timber-framed buildings, as well as the gentry houses and legacy of ecclesiastical buildings.
- Conserving and managing the characteristic geodiversity, enhancing access to it and increasing interpretation and appreciation of the role and function of geodiversity across the Herefordshire plateau, including the role of geology in determining appropriate habitat restoration and the role of geological processes in planning for future climate change resilience. Support local initiatives to promote, engage and improve wider public understanding of geodiversity.
- Ensuring that any potential future improvements to rural roads reflect local character, retain hedgerow enclosure and wide grass verges to improve habitat networks, and avoid bringing a degree of standardisation and signage clutter to the Herefordshire plateau.
- Promoting and encouraging the use of local building stone, and appropriate small-scale extraction of stone that could provide material for repairing traditional buildings and traditional estate walls. Promote and encourage the use of other sustainable and locally sourced materials, vernacular building techniques and styles, and existing landscape character, to inform design and ensure integration with the surrounding landscape.

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SEO 2: Protect and appropriately manage the distinctive character of the Herefordshire plateau landscape, conserving and enhancing the historic environment and features, settlement pattern, geodiversity, tranquillity and sense of place. Protect and maintain the natural geomorphological features and rock exposures that show the strong influence that geodiversity has on the landscape and which can be used as an educational resource to study past climatic conditions. Protect and maintain public access to and the enjoyment of the wider countryside for residents and visitors.

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- Managing former extraction sites for their range of mutually beneficial heritage interests including geodiversity, biodiversity and industrial archaeology. Work in partnership with sand and gravel quarry operators to develop restoration plans to preserve geological features when extraction ceases and to improve access to cuttings, quarries and other geological features by improving footpaths and providing signage and interpretation.

- Raising awareness of Local Biodiversity and Geodiversity Action Plans in the planning phase of developments, to ensure consideration of the importance of Local Biological and Geological Sites to heritage and the unique habitats they provide, as well as the contribution they can make to the sense of place, history and cultural associations of the area.

- Working with local geodiversity partnerships to designate further Local Geological Sites to assist with the understanding and enjoyment of geodiversity and to provide opportunities for recreation and volunteering.

- Working with local authorities, consultants and developers to ensure that due consideration is given to important geological exposures (Local Geological Sites) to protect them and to ensure that their integrity is maintained and that they are not obscured by development.

- Encouraging volunteering through geodiversity partnerships. Train volunteers in survey techniques and geoconservation methods to improve the quality of sites and to retain the knowledge and skills required for future management of sites.

- Protecting and maintaining the high level of public access throughout the area, including the Three Choirs Way, the Three Rivers Ride, the Herefordshire Trail and Bringsty Common, in addition to promoting the opportunities that the Malvern Hills Area of Outstanding Natural Beauty provides (albeit that only a small proportion falls within the Herefordshire Plateau NCA) and managing existing public rights of way.

SEO 3: Protect and manage the water environment of the Herefordshire plateau (rivers, streams and other waterbodies) as a multifunctional resource; and conserve and protect the quality and quantity of surface water through partnership working at the catchment scale, employing positive management practices in and around the catchment to improve water quality, reduce soil erosion, regulate water flow and minimise the impacts of flooding, and contributing to sense of place and climate regulation.

For example, by:

- Locating buffer strips to run across slopes and on either side of watercourses to intercept sediment and associated nutrients – particularly within the Department for Environment, Food and Rural Affairs priority catchments of the Teme and the Lugg and within the Frome Valley – to aid improvements in water quality.
- Encouraging good soil management, including increasing organic matter content to enhance the structural condition of soils, and improving water-holding capacity and water infiltration to aid the local aquifer recharge.
- Encouraging the creation and maintenance of low-input grasslands, and wide grass buffer strips in the river valleys (of which the Frome is the largest) where this can bring significant benefits for water quality on freely draining, slightly acid loamy soils that are susceptible to erosion.
- Restoring natural river geomorphology where this is viable and where it is of particular benefit to biodiversity, including for fish populations.
- Bringing rivers back into continuity with their flood plains and re-establishing backwaters as a refuge for aquatic species in times of drought, creating wetland habitats (some outside the Herefordshire Plateau NCA) to reduce flood risk downstream in settlements such as Bromyard. Increase storage of water through winter water-storage areas where possible, helping to make a significant contribution to mitigating flood risk while contributing to biodiversity, sense of place, water quality and climate regulation. Allow the seasonal inundation of wetlands and flood plain grassland as part of flood alleviation measures. This reflects the policies of the Catchment Flood Management Plans, as well as being essential to sustaining wetland habitats.
- Supporting the Teme Catchment Partnership in working to bring a wide range of partners (individuals, communities, organisations, companies and land managers) together to solve some of the current problems in the area, to improve water quality and wildlife habitats in and around the catchment.
- Protecting and managing the water environment (rivers, streams and other waterbodies) as a multifunctional resource. Where possible, appropriately manage the streams and rivers to maintain natural meanders, their associated vegetation and their marginal habitats.

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SEO 3: Protect and manage the water environment of the Herefordshire plateau (rivers, streams and other waterbodies) as a multifunctional resource; and conserve and protect the quality and quantity of surface water through partnership working at the catchment scale, employing positive management practices in and around the catchment to improve water quality, reduce soil erosion, regulate water flow and minimise the impacts of flooding, and contributing to sense of place and climate regulation.

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- Managing woodland on hillsides and bankside trees where appropriate by coppicing to minimise the risk of land slips and soil erosion and to slow down run-off from the plateau areas. This can be achieved by encouraging the planting of strategically located deciduous woodland, principally on steeper valley sides where it can aid the reduction of diffuse pollution reaching watercourses. Repair eroded channels and tracks and encourage cross-slope cultivation.

- Creating areas of wet woodland in appropriate places to reduce diffuse pollution and flood risk.

- Managing livestock grazing close to rivers and streams to minimise soil compaction, soil erosion and diffuse pollution while addressing the need for the provision of water for livestock that does not have an impact on the water quality.

- Encouraging sustainable water use – both within and outside the boundaries of the NCA, and across sectors – to protect the local aquifer from over-abstraction and to mitigate the negative impacts of low river flows on biodiversity while improving resilience to climate change.

- Promoting watercourses as a strategic resource for raising awareness and understanding of geomorphology, using the River Frome as a good example.

Supporting document 1: Key facts and data

Area of Herefordshire Plateau National Character Area (NCA): 34,653 ha

1. Landscape and nature conservation designations

The Herefordshire Plateau contains 222 ha of the Malvern Hills Area of Outstanding Natural Beauty (AONB). Management plans for the protected landscape can be found at: **www.malvernhillsaonb.org.uk/**

Source: Natural England (2011)

1.1 Designated nature conservation sites

The NCA includes the following statutory nature conservation designations: The River Lugg SSSI overlaps with the River Wye SAC.

Tier	Designation	Name	Area (ha)	% of NCA
International	Ramsar	n/a	0	0
European	Special Protection Area (SPA)	n/a	0	0
	Special Area of Conservation (SAC)	River Wye SAC	2	<1
National	National Nature Reserve (NNR)	n/a	0	0
	Site of Special Scientific Interest (SSSI)	A total of 5 sites wholly or partly within the NCA	50	<1

Source: Natural England (2011)

Please note: (i) Designated areas may overlap (ii) all figures are cut to Mean High Water Line, designations that span coastal areas/views below this line will not be included.

There are 101 Local Wildlife Sites in the Herefordshire Plateau covering 1,692 ha which is 5 per cent of the NCA.

Source: Natural England (2011)

- Details of individual Sites of Special Scientific Interest can be searched at: **http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm**
- Details of Local Nature Reserves (LNR) can be searched at: **http://www.lnr.naturalengland.org.uk/Special/lnr/lnr_search.asp**
- Maps showing locations of Statutory sites can be found at: **http://magic.Defra.gov.uk/website/magic/** – select 'Rural Designations Statutory'

1.1.1 Condition of designated sites

SSSI condition category	Area (ha)	Percentage of NCA SSSI resource
Unfavourable declining	1	<1
Favourable	3	8
Unfavourable no change	2	<1
Unfavourable recovering	42	86

Source: Natural England (March 2011)

- Details of SSSI condition can be searched at: **http://www.sssi.naturalengland.org.uk/Special/sssi/reportIndex.cfm**

2. Landform, geology and soils

2.1 Elevation

Elevation ranges from 30 m above sea level to a maximum of 253 m to the north-east of Grendon Green. The mean average elevation is 143 m.

Source: Natural England 2010

2.2 Landform and process

The Herefordshire Plateau rises abruptly out of the Herefordshire Lowlands to the west. In the south its transition from the lowlands is more gentle and it merges with the northern end of the Malvern Hills in the south-east.

Source: Herefordshire Plateau Countryside Character Area Description

2.3 Bedrock geology

The area is dominated by the Upper Silurian Raglan Mudstone Formation and the Lower Devonian St Maughans Formation. The Raglan Mudstone Formation in general contains more mudstone than sandstone layers and underlies lower land in the east and north of the area. The NCA forms part of an irregular plateau comprising mainly red interbedded sandstones, siltstones, mudstones and nodular calcrete limestones of the Lower Old Red Sandstones.

Source: Geological Narrative West Midlands Geodiversity Partnership, Herefordshire Plateau Countryside Character Area Description

2.4 Designated geological sites

Glacial moraines are found in the west of the area near Stoke Prior and Stretford, which mark the eastern limit reached by the Welsh ice.

Source: Geological Narrative West Midlands Geodiversity Partnerships, Herefordshire Plateau Countryside Character Area Description

2.5 Designated geological sites

Tier	Designation	Number
National	Geological Site of Special Scientific Interest (SSSI)	n/a
National	Mixed Interest SSSI	n/a
Local	Local Geological Sites	11

Source: Natural England (2011)

- Details of individual Sites of Special Scientific Interest can be searched at: http://www.sssi.naturalengland.org.uk/Special/sssi/search.cfm

2.6 Soils and Agricultural Land Classification

The plateau is generally overlain with shallow, poor soils. There are heavier loams and clays in the narrow valleys where they have cut into underlying mudstones. Alongside springs there are small deposits of tufa.

Source: Herefordshire Plateau Countryside Character Area Description

The main grades of agricultural land in the NCA are broken down as follows (as a proportion of total land area):

Grade	Area (ha)	% of NCA
Grade 1	186	<1
Grade 2	13,013	38
Grade 3	20,434	59
Grade 4	696	2
Grade 5	n/a	0
Non-agricultural	194	1
Urban	111	<1

Source: Natural England (2010)

- Maps showing locations of Statutory sites can be found at: http://magic.Defra.gov.uk/website/magic/ – select 'Landscape' (shows ALC classification and 27 types of soils).

3. Key water bodies and catchments

3.1 Major rivers/canals

The following major rivers/canals (by length) have been identified in this NCA.

- River Frome 17 km
- River Leadon 7 km
- River London 9 km
- River Lugg 1 km

Source: Natural England (2010)

Please note: Other significant rivers (by volume) may also occur. These are not listed where the length within the NCA is short.

There are many streams and rivers, the Frome being the largest, flowing through incised valleys.

The River Teme runs along the northern and eastern boundaries of the NCA.

The NCA is underlain by a minor aquifer. Catchments of the River Lugg and Frome extend into the Herefordshire Lowlands.

3.2 Water quality

The total area of Nitrate Vulnerable Zone is 23,117 ha. This equates to 67 per cent of the NCA.

Source: Natural England (2010)

3.3 Water Framework Directive

Maps are available from the Environment Agency showing current and projected future status of water bodies at:

http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e

4. Trees and woodlands

4.1 Total woodland cover

The NCA contains 2,970 ha of woodland (9 per cent of the total area), of which 842 ha (2 per cent) is ancient woodland.

Source: Natural England (2010), Forestry Commission (2011)

4.2 Distribution and size of woodland and trees in the landscape

Apart from the arable land the area has an arboreal character, particularly in the east, where the there are quite substantial woodlands along the Teme Valley and its steep-sided tributaries. The woodland is generally deciduous with small

farm and woodland copses, game plantations and riparian trees. There are sporadic groups of conifers both as small groups of Wellingtonias, cedars and similar species around manor houses and rectories. Orchards with old trees are scattered throughout the NCA with a particular concentration in the west of the area. Scattered damson trees are a distinctive feature along many of the hedgerows. Occasional parklands and ornamental grounds with mature trees occur in the western part of the plateau. Broadleaved woodlands and plantations can be found throughout the Brockhampton estate and commons, particularly on steeper slopes.

Source: Central Herefordshire Natural Area Profile

4.3 Woodland types

A statistical breakdown of the area and type of woodland found across the NCA is detailed below.

Area and proportion of different woodland types in the NCA (over 2 ha)

Woodland type	Area (ha)	% of NCA
Broadleaved	2,217	6
Coniferous	347	1
Mixed	200	1
Other	206	1

Source: Forestry Commission (2011)

Area and proportion of ancient woodland and planted ancient woodland within the NCA.

Type	Area (ha)	% of NCA
Ancient semi-natural woodland	541	2
Planted Ancient Woodland (PAWS)	301	1

Source: Natural England (2004)

5. Boundary features and patterns

5.1 Boundary features

The fields are medium to large in size on the open, flatter ground of the plateau, while smaller, more irregular and with higher hedgerows occur on the slopes and in the valleys. Within river valleys there are medium sized, generally, irregular or sub-rectangular hedged fields with hedgerow trees. Enclosure was generally completed by the 18th century with subsequent boundary removal in arable areas. Smaller fields are found on slopes to higher land, subdivided for stock control.

Source: Herefordshire Plateau Countryside Character Area description; Countryside Quality Counts (2003)

5.2 Field patterns

A multi-period enclosure pattern predominates. Medium to large scale arable fields dominate the open, flatter ground of the plateau. Medium to small, generally irregular or sub-rectangular hedged fields with numerous hedgerows trees are common. Smaller and more irregular areas of pasture and mixed farming are present on the more undulating slopes and steeper sides of the River Teme and River Lugg bordering the area to the north respectively and the smaller River Frome which flows generally north to south through the NCA.

Source: Herefordshire Plateau Countryside Character Area description; Countryside Quality Counts (2003)

6. Agriculture

The following data has been taken from the Agricultural Census linked to this NCA.

6.1 Farm type

The area's mixed farm character is supported by the breakdown of farm types: (2009 data) there were 175 grazing livestock (lowland) holdings (32 per cent), 82 cereals units (15 per cent), 73 mixed (13 per cent), 45 general cropping (8 per cent), 41 horticulture units (7 per cent), 25 dairy (5 per cent) and 13 specialist poultry units (2 per cent). The number of dairy farms fell from 34 in 2000 to 25 in 2009 with 'mixed' farms falling from 104 to 73 in the same period. Specialist poultry holdings rose from 9 to 13. General cropping holdings fell from 51 to 45 (all between 2000 and 2009).

Source: Agricultural Census, Defra (2010)

6.2 Farm size

Farms over 5 ha but less than 20 ha represent the most common farm size with 26 per cent of holdings in this category. Meanwhile small holdings of <5 ha are the least common in the NCA at just 16 per cent. The most significant change from 2000 to 2009 was a 30 per cent reduction in the number of farms <5 ha. However there was a 12 per cent increase in holdings >=50ha and <100ha.

Source: Agricultural Census, Defra (2010)

6.3 Farm ownership

2009: Total farm area = 29,635 ha; owned land = 23,594 ha.
2000: Total farm area = 28,759 ha; owned land = 23,554 ha.

Source: Agricultural Census, Defra (2010)

6.4 Land use

The land use is predominantly grassland with 32 per cent of the available farmed area used for grazing livestock in 2009. Cereals are the second most prevalent land use covering 15 per cent of available farmed area in 2009.

Source: Agricultural Census, Defra (2010)

6.5 Livestock numbers

Sheep represent the most common livestock (2009 data) at 101,400 animals followed by cattle at 23,400 and pigs at 8,100. From the period 2000 to 2009 there was a reduction in numbers of all livestock types; down by 24 per cent sheep, 20 per cent pigs and 2 per cent cattle.

Source: Agricultural Census, Defra (2010)

6.6 Farm labour

The figures (2009) suggest that the majority of holdings are run by principal farmers (768) in addition to (20) salaried managers. There is a fairly balanced proportion of full time (85) and part time workers (84). Casual/gang workers represent a high proportion of the workforce (283). Full time workers dropped by 14 per cent from 2000 to 2009 while part time worker increased by 16 per cent. In addition casual/gang workers numbers rose by 49 per cent.

Source: Agricultural Census, Defra (2010)

Please note: (i) Some of the Census data is estimated by Defra so will not be accurate for every holding (ii) Data refers to Commercial Holdings only (iii) Data includes land outside of the NCA belonging to holdings whose centre point is within the NCA listed.

7. Key habitats and species

7.1 Habitat distribution/coverage

The NCA is reasonably well wooded with significant areas of ancient woodland, including frequent plantations of broadleaved and coniferous species on ancient and secondary sites. Ash-field-maple-dogs mercury woodland and oak-bracken-bramble woods are two notable woodland types. Remnants of wet valley woods consisting of wet alder woodland, which can hold a rich variety of plants, are another habitat feature. Butterflies such as the white admiral and wood white are associated with the woodlands bordering the Teme Valley and Malvern Hills NCAs to the east.

Traditional orchards are scattered across the NCA though the greatest remaining concentration of orchards remains between Tenbury Wells and Bromyard. This is one of the more significant habitats found in this NCA in terms of area. There are a large number of recent records for noble chafer (a traditional orchard dependant species) in the eastern orchards and a few other records since 1990 across the rest of the NCA. Woodpecker holes in orchard trees also provide roosts for rare bats such as the lesser horseshoe and Bechstein's.

Rivers and streams is one of the most significant habitat features of the NCA. Tributaries of rivers such as the Frome and Lugg are of wildlife interest, particularly for higher plants and mosses.

Source: Central Herefordshire Natural Area Profile

7.2 Priority habitats

The Government's new strategy for biodiversity in England, *Biodiversity 2020*, replaces the previous Biodiversity Action Plan (BAP) led approach. Priority habitats and species are identified in *Biodiversity 2020*, but references to BAP priority habitats and species, and previous national targets have been removed. Biodiversity Action Plans remain a useful source of guidance and information. More information about *Biodiversity 2020* can be found at;

http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/englandsbiodiversitystrategy2011.aspx

The NCA contains the following areas of mapped priority habitats (as mapped by National Inventories). Footnotes denote local/expert interpretation. This will be used to inform future national inventory updates.

Priority habitat	Area (ha)	% of NCA
Broadleaved mixed and yew woodland (broad habitat)	638	2
Lowland meadows	23	<1
Lowland heathland	1	<1

Source: Natural England (2011)

Maps showing locations of priority habitats are available at

- **http://magic.Defra.gov.uk/website/magic/ select** 'Habitat Inventories'

7.3 Key species and assemblages of species

- Maps showing locations of priority habitats are available at: **http://magic.Defra.gov.uk/website/magic/**
- Maps showing locations of S41 species are available at: **http://data.nbn.org.uk/**

8. Settlement and development patterns

8.1 Settlement pattern

There is a dispersed settlement pattern of scattered hamlets, farms and manor houses throughout the area, with pink and grey old red sandstone traditionally used and occasionally timber-framing. Small hamlets with a manor house, manor farm and church close together are a typical feature, with small groups of parkland trees clustered around them. A clustered settlement pattern occurs on and around Bringsty Common and Bromyard Downs. This pattern is broken at places such as Bringsty Common where dwellings are irregular and scattered. The settlements are connected by a network of narrow, commonly deep sunken lanes.

Source: Herefordshire Plateau Countryside Character Area description; Countryside Quality Counts (2003)

8.2 Main settlements

The only settlement of any size is Bromyard. The total estimated population for this NCA (derived from ONS 2001 census data) is: 14,233.

Source: Herefordshire Plateau Countryside Character Area description; Countryside Quality Counts (2003)

8.3 Local vernacular and building materials

Most of the hamlets are dominated by buildings in pink and grey sandstones of the Lower Old Red Sandstone. Some of the smaller buildings are of rubble construction, although dressed stone is typical in places. The smaller manor houses and larger farms commonly have typical Herefordshire hipped roofs. Red brick has been used widely in the newer cottages and village houses and, towards the southern edge of the area, timber-framed buildings survive. The timber-framed tradition can be seen particularly clearly in the late medieval building of Lower Brockhampton House.

Source: Herefordshire Plateau Countryside Character Area description; Countryside Quality Counts (2003)

9. Key historic sites and features

9.1 Origin of historic features

There have been Mesolithic, Neolithic and bronze-age finds around Bromyard and on the higher ground alongside the River Teme, indicating exploitation and later settlement in these areas. The most obvious and prominent prehistoric evidence of human activity are the iron-age hill forts on the higher ground, of which Wall Hills (Thornbury) is by far the largest. Extensive evidence for prehistoric and Romano-British occupation, including some sections of Roman road exists. Brockhampton and Whitbourne are fine examples of traditional historic parkland.

Source: Countryside Quality Counts Draft Historic Profile, Countryside Character Area description

9.2 Designated historic assets

This NCA has the following historic designations:

- 2 Registered Parks and Gardens covering 201 ha
- No Registered Battlefields
- 21 Scheduled Monuments
- 829 Listed Buildings.

Source: Natural England (2010)

- More information is available at the following address:
  http://www.english-heritage.org.uk/caring/heritage-at-risk/
  http://www.english-heritage.org.uk/professional/protection/process/national-heritage-list-for-england/

10. Recreation and access

10.1 Public access

- 1 per cent of the NCA, 492 ha, is classified as being publically accessible.
- There are 647 km of public rights of way at a density of 1.9 km per km^2.
- There are no National Trails within the NCA.

Sources: Natural England (2010)

The table below shows the breakdown of land which is publically accessible in perpetuity:

Access designation	Area (ha)	% of NCA
National Trust (Accessible all year)	77	<1
Common Land	292	<1
Country Parks	0	0
CROW Access Land (Section 4 and 16)	276	0
CROW Section 15	275	<1
Village Greens	1	<1
Doorstep Greens	0	0
Forestry Commission Walkers Welcome Grants	175	<1
Local Nature Reserves (LNRs)	0	0
Millennium Greens	0	0
Accessible National Nature Reserves (NNRs)	0	0
Agri-environment Scheme Access	10	<1
Woods for People	118	<1

Sources: Natural England (2011)

Please note: Common Land refers to land included in the 1965 commons register; CROW = Countryside and Rights of Way Act 2000; OC and RCL = Open Country and Registered Common Land.

11. Experiential qualities

11.1 Tranquillity

Based on the CPRE map of tranquillity (2006) the areas of greatest tranquillity are to the north-east of the NCA near Wall Hill (iron-age hill fort) and Garmsley camp, and to the south-west on the hills around Pencombe where settlement is sparse. In contrast to the town of Bromyard where the lowest levels of tranquillity are found.

A breakdown of tranquillity values for this NCA is detailed in the table below:

Category of tranquillity	Score
Highest value within NCA	149
Lowest value within NCA	141
Mean value within NCA	10

Sources: CPRE (2006)

- More information is available at the following address: **http://www.cpre.org.uk/what-we-do/countryside/tranquil-places/in-depth/item/1688-how-we-mapped-tranquillity**

11.2 Intrusion

The 2007 Intrusion Map (CPRE) shows the extent to which rural landscapes are 'intruded on' from urban development, noise (primarily traffic noise), and other sources of visual and auditory intrusion. This shows a similar pattern to the tranquillity map with the most intruded area being around Bromyard.

A breakdown of intrusion values for this NCA detailed in the table below.

Category of intrusion	1960s (%)	1990s (%)	2007 (%)	% change (1960s-2007)
Disturbed	0	2	8	n/a
Undisturbed	100	98	92	8
Urban	n/a	n/a	<1	n/a

Sources: CPRE (2007)

Notable trends from the 1960s to 2007 are very little increase in disturbed land in the thirty years between the 1960s and the 1990s with a great percentage increase in disturbed land between the 1990s and 2007.

- More information is available at the following address: http://www.cpre.org.uk/resources/countryside/tranquil-places

Fields in tranquil countryside near Thornbury only a few hundred metres from the source of the River Frome.

12. Data sources

- British Geological Survey (2006)
- Natural Area Profiles, Natural England (published by English Nature 1993-1998)
- Countryside Character Descriptions, Natural England (regional volumes published by Countryside Commission/Countryside Agency 1998/1999)
- Joint Character Area GIS boundaries, Natural England (data created 2001)
- National Parks and AONBs GIS boundaries, Natural England (2006)
- Heritage Coast Boundaries, Natural England (2006)
- Agricultural Census June Survey, Defra (2000,2009)
- National Forest Inventory, Forestry Commission (2011)
- Countryside Quality Counts Draft Historic Profiles, English Heritage (2004)*
- Ancient Woodland Inventory, Natural England (2003)
- Priority Habitats GIS data, Natural England (March 2011)
- Special Areas of Conservation data, Natural England (data accessed in March 2011)
- Special Protection Areas data, Natural England (data accessed in March 2011)
- Ramsar sites data, Natural England (data accessed in March 2011)
- Sites of Special Scientific Interest, Natural England (data accessed in March 2011)
- Detailed River Network, Environment Agency (2008)
- Source protection zones, Environment Agency (2005)
- Registered Common Land GIS data, Natural England (2004)
- Open Country GIS data, Natural England (2004)
- Public Rights of Way Density, Defra (2011)
- National Trails, Natural England (2006)
- National Tranquillity Mapping data, CPRE (2007)
- Intrusion map data, CPRE (2007)
- Registered Battlefields, English Heritage (2005)
- Record of Scheduled Monuments, English Heritage (2006)
- Registered Parks and Gardens, English Heritage (2006)
- World Heritage Sites, English Heritage (2006)
- Incorporates Historic Landscape Characterisation and work for preliminary Historic Farmstead Character Statements (English Heritage/Countryside Agency 2006)

Please note all figures contained within the report have been rounded to the nearest unit. For this reason proportion figures will not (in all) cases add up to 100%.
The convention <1 has been used to denote values less than a whole unit.

Supporting document 2: Landscape change

Recent changes

Trees and woodlands

- Countryside Quality Counts data suggests that there is good coverage of woodland management agreements and some attention to the maintenance of old orchards, suggesting that overall character of the NCA has been strengthened.

- About 49 per cent of the woodland cover is on an ancient woodland site. The proportion of these sites covered by a Woodland Grant Scheme, according to the Countryside Quality Counts data, has changed since 1999 to 2003 from 21 per cent to 30 per cent.

Boundary features

- There is a limited extent of hedgerow boundary restoration which suggests that given past losses the resource remains weakened. The estimated boundary length for the NCA is about 3,186 km. The total length of agreements between 1999 and 2003 is equivalent to about 3 per cent of this total. The overall resource has probably been neglected.

- There has been loss and deterioration of hedgerows through agricultural improvement, particularly for cereal cultivation and as a result of overcutting.

- There has been hedgerow neglect particularly along the flatter ground of the Plateau where conversion to arable has caused hedgerow loss and loss of hedgerow trees with a failure to nurture new generations of hedgerow trees or replant former field boundaries.

Agriculture

- Changes in the agricultural character of the area have been reflected in recent years by the reduction of 'mixed' farms, dairy farms and general cropping holdings, with an increase in specialist poultry farming.

- The increase in the conversion of pasture to arable production has led to the loss of meadows leading to a change in the landscape character.

- Sheep represent the most dominant livestock type followed by cattle and followed by pigs. Previous decades have seen a reduction in sheep numbers with a reduction in numbers of all livestock types: a 24 per cent reduction in sheep numbers, 20 per cent reduction in pig numbers and a 2 per cent reduction in the number of cattle.

Settlement and development

- There has been some expansion of urban and fringe into peri-urban around Bromyard but the effect is localised.

- Development pressure is low and local in its impacts.

- There is no evidence for modification of existing patterns, although there is some concentration of dispersed development in the area.

Semi-natural habitat

- Traditional orchards have declined and been lost, particularly on the fringes of settlements. This has major landscape and biodiversity implications as this and neighbouring NCA's are the main population for noble chafer.
- The orchard tree age structure is too limited. The older fruit tree population is declining and there are too few middle aged trees to replace them in the future.
- There has been a decline in wet meadows along valley bottoms. Threats include neglect, intensification of agriculture and pressure from land development.
- A total of 5 SSSI lie wholly or partly within the NCA. Less than 1 per cent of sites are declining, less than 1 per cent are unfavourable with no change, 86 per cent are unfavourable recovering, and 8 per cent are in favourable condition.
- Ancient woodland is one of the many important habitats distributed throughout this NCA. There a number of threats to woodland, disease climate change lack of management and could have a significant impact. Ash dieback caused by the fungus Chalara fraxinea could potentially have a significant impact as ash is a common and characteristic tree species of the NCA.

Historic features

- Prominent prehistoric evidence of human activity- iron-age hill forts on the higher ground, of which Wall Hills Camp (Thornbury) is by far the largest. Wall Hills Camp is identified as being 'at risk' due to ploughing damage. Other below ground archaeological remains are at similar risk across the area.
- There is limited evidence for the active management of historic landscape. In 1918 about 3 per cent of the NCA was historic parkland. By 1995 it is estimated that 64 per cent had been lost with about 33 per cent of the remaining parkland being covered by a Historic Parkland Grant, and about 7 per cent included within an agri-environmental scheme.
- Conversion of historic buildings may be presenting a change to the historic environment.

Coasts and rivers

- The rivers in this NCA have a 'poor' ecological status, or have not been assessed. The chemical status of rivers in the NCA has not been assessed. However, the River Wye into which the rivers Lodon and Frome flow, has a 'good' chemical status. The River Teme, into which some of the tributaries in the north of the NCA flow, is 'failing to achieve good' chemical status.
- Modification to some large sections of rivers such as the River Lugg have been modified creating straight wide channels, construction of weirs.

Minerals

- There is still small scale extraction of glacial gravels as sites such as The Leasows and Starpit Farm as well as many small disused gravel pits.
- There are small disused quarries from which sandstone was extracted for building stone.
- The exploitation of minerals has left a valuable legacy at many sites. All such quarries provide opportunities for interpretation and education. An example is Linton Tileworks LGS, an important geological site east of Bromyard, where clay was extracted. Beaconites, burrows of one of the earliest creatures living on land as opposed to in water, were recorded at this site and there are many examples of fossil soils and sedimentary features and the geological structure, which can be seen in three dimensions.

Drivers of change

Climate change

- Climate change is likely to result in some periods of heavy rain that may cause more frequent flooding events, potential de-stabilisation of steep banks affecting habitats and riverine habitats.
- Summer droughts leading to increased in water demand for crops, increased fire risk, particularly on the areas of common, and the wider impacts that this may have on the landscape as a whole.
- A changing climate, in particular summer droughts, is likely to increase the vulnerability of the woodlands particularly the ancient semi-natural woodland with veteran trees increasingly vulnerable to damage, pest and disease.
- A requirement for increased renewable energy may result in growth of biomass crops. Short rotation coppice and miscanthus could potentially be accommodated on gentler slopes and valley bottoms.
- A longer growing season potentially leading to double cropping.
- Likely impact of climate change on orchards, both traditional and commercial bush orchards, needs to be monitored and managed. It is important to retain variability of genetic resource to allow adaptability to changing climate.
- Some novel crops may become increasingly viable; there are already a number of vineyards in the area.

Other key drivers

- There is likely to be an increased pressure for food production in the future as result of a national drive for greater self-sufficiency.
- Agricultural change – pasture improvement and arable expansion threaten areas of semi-natural grassland and meadows resulting in fragmentation and loss of habitats and reduction in opportunities for species movement and adaptation, and overall species loss.
- Allow appropriate economic and social growth while taking account of the rural and tranquil character.
- Partnership working at a landscape scale is ongoing to deliver benefits for a full range of habitats and species through the strengthening of ecological networks and the maintenance and restoration of habitat.
- The West Midlands woodland opportunity map identifies this area as having high potential for creating new woodlands, using the existing ancient woodlands as a base for developing a new woodland network.
- Native broadleaved woodland markets and opportunities - lack of markets for native broadleaved woodlands and traditional coppicing.

Supporting document 3: Analysis supporting Statements of Environmental Opportunity

The following analysis section focuses on a selection of the key provisioning, regulating and cultural ecosystem goods and services for this NCA. These are underpinned by supporting services such as photosynthesis, nutrient cycling, soil formation and evapo-transpiration. Supporting services perform an essential role in ensuring the availability of all ecosystem services.

Biodiversity and geodiversity are crucial in supporting the full range of ecosystem services provided by this landscape. Wildlife and geologically-rich landscapes are also of cultural value and are included in this section of the analysis. This analysis shows the projected impact of Statements of Environmental Opportunity on the value of nominated ecosystem services within this landscape.

Narrow road winds through a hedge-bound pastoral landscape.

Statement of Environmental Opportunity	Ecosystem Service																		
	Food provision	Timber provision	Water availability	Genetic diversity	Biomass provision	Climate regulation	Regulating water quality	Regulating water flow	Regulating soil quality	Regulating soil erosion	Pollination	Pest regulation	Regulating coastal erosion	Sense of place/inspiration	Sense of history	Tranquility	Recreation	Biodiversity	Geodiversity
SEO 1: Protect, manage and enhance the mosaic of semi-natural habitats associated with the Herefordshire plateau – ancient woodlands, traditional orchards, lowland meadows, lowland acid grassland, wood pasture and parkland, common land and traditional hedgerows – to maintain and strengthen their connectivity and landscape character, and to make them more resilient to change in climate while maintaining viable and appropriate agricultural activity.	o	↗ **	↔ **	↗ ***	↔ ***	↔ ***	↗ ***	↗ ***	↗ ***	↑ **	↑ **	o **	n/a	↑ ***	↑ ***	↑ ***	↗ **	↑ ***	↗ **
SEO 2: Protect and appropriately manage the distinctive character of the Herefordshire plateau landscape, conserving and enhancing the historic environment and features, settlement pattern, geodiversity, tranquillity and sense of place. Protect and maintain the natural geomorphological features and rock exposures that show the strong influence that geodiversity has on the landscape and which can be used as an educational resource to study past climatic conditions. Protect and maintain public access to and the enjoyment of the wider countryside for residents and visitors.	o	↔ ***	↔ ***	↗ ***	↔ ***	o	↔ ***	↔ ***	↔ ***	↔ ***	↔ ***	o **	n/a	↑ ***	↑ ***	↑ ***	↗ **	↗ **	↗ **
SEO 3: Protect and manage the water environment of the Herefordshire plateau (rivers, streams and other waterbodies) as a multifunctional resource; and conserve and protect the quality and quantity of surface waters through partnership working at the catchment scale, employing positive management practices in and around the catchment to improve water quality, reduce soil erosion, regulate water flow and minimise the impacts of flooding, and contributing to sense of place and climate regulation.	o	↔ ***	↗ **	↔ ***	↔ ***	↗ **	↑ **	↑ **	↗ ***	↑ ***	o **	o **	n/a	↗ **	↔ **	↗ **	↗ *	↑ **	↗ **

Note: Arrows shown in the table above indicate anticipated impact on service delivery: ↑ = Increase ↗ = Slight Increase ↔ = No change ↘ = Slight Decrease ↓ = Decrease. Asterisks denote confidence in projection (*low **medium***high) ° symbol denotes where insufficient information on the likely impact is available.

Dark plum = National Importance; Mid plum = Regional Importance; Light plum = Local Importance

Landscape attribute	Justification for selection
A rolling landform dissected by small narrow valleys, rising to its highest ground from which steep-sided valleys radiate.	■ Gently rolling plateau dissected by small, narrow valleys and streams flowing through incised valleys. Fine examples are the Sapey Brook and the River Frome, the later being the largest in the NCA. ■ An irregular plateau comprised mainly of red inter-bedded sandstones, siltstones, mudstones and nodular calcrete limestones of the Lower Old Red Sandstones. Overlain with shallow, poor soils and heavier loams and clays in the narrow valleys where they have cut into underlying mudstones. ■ Medium to large scale arable fields dominate the open flatter plateau and river flood plains, while smaller and more irregular areas of pasture and mixed farming occupy the surrounding rolling countryside and valley sides. ■ Large scale open arable cultivation is dissected by small enclosed steep-sided wooded valleys ('dingles') with pasture on narrow flood plains. ■ Wide and varied views over the Teme Valley and surrounding lowlands.
A landscape rich in historical and cultural elements and features.	■ Impressively sited Scheduled Ancient Monuments including: iron-age hill forts of Garmsley Camp, Risbury Camp and Wall Hills Camp. ■ In the narrow valleys there are springs with small deposits of tufa which was used locally for medieval carving. ■ Traditional orchards, once extensive in the NCA, are present as scattered remnants with notable concentrations in the east and around the settlements of Risbury and Kimbolton. ■ A variety of farmsteads and farm buildings from many periods illustrating changing agricultural trends and close associations with livestock production, mixed farming and particularly fruit and cider production and hop growing. ■ Ancient woodland landscapes. ■ The longstanding cultivation of fruit and hops provides a strong identity to the area helping to retain the historical and cultural identity of the area. An area that was historically rich in hop fields and with scattered surviving concentrations in Bosbury and Stanford Bishop. A distinctive local type of hop kiln (flat roofed instead of the usual round roof) is evidence of the long history of the industry within the area. ■ Medium to small, generally irregular or sub-rectangular hedged fields with numerous hedgerows trees are a feature of the rolling countryside.

Landscape attribute	Justification for selection
Tranquil rural character.	■ Secluded wooded valleys offer high levels of tranquillity set within a gentle and intimate landscape. ■ It is classified as one of the most 'undisturbed' NCAs with 92 per cent of the area classified as 'undisturbed'. ■ Dominated by a low density settlement pattern. ■ Less than 1 per cent of the area identified as urban. ■ Sparsely populated hamlets, isolated churches, small manor houses and local country houses within parks. ■ Distinctive, often narrow network of sunken or hedged lanes. ■ Most hamlets are dominated by buildings in local reddish brown and grey sandstones. Timber-framed tradition can be seen particularly clearly in the late medieval building of Lower Brockhampton House.
Mixed mosaic of habitats.	■ Ancient and semi-natural woodland on steeply slopes. Including - Hill Hole Dingle SSSI, cutting through Old Red Sandstone, dominated by ash with oak and field maple and a rich shrub layer of dogs mercury. Further concentrations can be found to the north and eastern boundaries. ■ The River Frome and its tributaries are distinctive features within the NCA and have contributed to the rolling and incised valley landform. ■ Important concentration of lowland meadows including SSSI at Nine Holes Meadow and Frog End Meadow. ■ Traditional orchards host important lichen communities and invertebrate populations, for example a strong population of noble chafer beetle, classified as vulnerable in the UK, a species which is virtually confined to old orchards. Woodpecker holes in orchard trees also provide roosts for rare bats such as the lesser horseshoe and Bechstein's. ■ Ancient species-rich hedgerows in numerous locations particularly around Bromyard Downs where hedgerows are notable for their fruit trees, damsons being of particular importance.

Landscape opportunities

- Conserve and appropriately manage the rural character and distinctiveness of the traditionally farmed gently rolling plateau where large scale open arable cultivation is dissected by small enclosed steep-sided wooded valleys ('dingles') with pasture on narrow flood plains.
- Manage and enhance the landscape through the restoration of hedgerow boundaries, especially where they will reinforce historic field patterns and enhance landscape character in arable areas, while reinforcing the wildlife network.
- Seek to integrate environmentally beneficial options into the farmed landscape which will benefit pollinators and help strengthen the network of habitats in the farmed landscape.
- Manage traditional orchards to increase the variability of age structure of orchard trees, protect the genetic diversity contained in them and ensure a continuity of deadwood and rot holes. Improve the condition of the underlying grassland and enhance the wider lowland meadow resource.
- Restore or maintain traditional buildings associated with orchards, such as cider houses, which contribute to the sense of place, history and cultural associations of orchards across this area.
- Protect and manage the historic and cultural landscape assets including the Medieval, Neolithic and bronze-age archaeology on the higher ground and including iron-age hill forts, moated sites, parklands, common meadows, medieval settlement patterns and sunken lanes that all contribute to the sense of place of the area.
- Plan for expansion, restoration and creation of lowland meadow, traditional orchard, broadleaved woodland, so that extensive and connected habitat networks are created throughout the NCA, in accordance with landscape character. By consolidating and strengthening the neighbouring network in the Teme Valley, Herefordshire Lowlands and Malvern Hills NCAs this will support better opportunities for and adaptation to climate change.
- Protect and manage the water environment (rivers, streams and other waterbodies) as a multifunctional resource. Appropriately manage the streams and rivers to maintain where possible natural meanders, their associated vegetation and marginal habitats.
- Conserve and appropriately manage the area's rich architectural legacy and distinct pattern of historic dispersed settlement which extends from scattered hamlets, small manor farms, medieval timber-framed manor houses to gentry houses, traditional local reddish brown and grey Old Red Sandstone buildings to occasionally distinctive timber-framed buildings.
- Manage and significantly enhance the variety of ancient and broadleaved woodland throughout the NCA which reflects the underlying geology, expanding and re-connecting woodlands where appropriate. Reintroduce active coppice management and pollarding where this will enhance wildlife interest and enhance adaptation to climate change. Managing woodlands may also provide a source of local fuel and timber products. Where woodlands form part of the mixed farm mosaic support landowners in integrating woodland management into their farm business.

Continued on next page...

Landscape opportunities continued...

- Strengthen and enhance access to geodiversity, and increase interpretation, appreciation and use of the role and function of geodiversity across the NCA, (including the role of geology in determining appropriate habitat restoration and the role of geological processes in planning for future climate change resilience).
- Protect and enhance the intimate rural character, lack of intrusion and tranquillity while supporting a working landscape that provides essential food, homes and recreational opportunities. Plan for reduced carbon affordable housing that enhances landscape and biodiversity, using local materials built to high environmental standards.
- Manage the existing access network of rights of ways and cycle routes and plan new links, particularly between the main settlement of Bromyard and the wider countryside linking to public transport where practicable.

Traditional timber-framed houses alongside the road in Clifton upon Teme.

Ecosystem service analysis

The following section shows the analysis used to determine key ecosystem service opportunities within the area. These opportunities have been combined with the analysis of landscape opportunities to create Statements of Environmental Opportunity.

Please note that the following analysis is based upon available data and current understanding of ecosystem services. It does not represent a comprehensive local assessment. Quality and quantity of data for each service is variable locally and many of the services listed are not yet fully researched or understood. Therefore the analysis and opportunities may change upon publication of further evidence and better understanding of the inter-relationship between services at a local level.

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Food provision	Soil Mixed livestock Cereals Pasture Traditional orchards	The soils range from shallow poor soils and heavier loams and clays in the narrower valleys creating a range of productive environments. The area supports mixed farming with 32 per cent of available farmed land used exclusively for grazing livestock, while 15 per cent is used for cereals. The remainder of farm types are as follows: mixed farm 13 per cent, general cropping 8 per cent, horticulture units 7 per cent, dairy 5 per cent and specialist poultry units 2 per cent. Sheep represent the most common livestock type with more than 100,000 animals in 2009 followed by cattle at 23,400 and pigs at 8,100. From the period 2000 – 2009 there was a reduction in numbers of all livestock types. **Continued on next page...**	Regional	Livestock production remains the mainstay of agricultural activity across the area. Meat and cereal production are not only the dominant agricultural activities, but are also closely linked to many of the cultural aspects of the area; the sense of place, biodiversity, sense of history and heritage assets. This area is known for produce associated with fruit from local orchards both in the form of cider and perry and edible fruit. The celebration of seasons and the productivity of the landscape are particularly strongly associated with the cultural history of orchards.	Work with the local farming community to safeguard future food production while enhancing other ecosystem services such as biodiversity, water quality, water regulation (flooding), soil erosion and quality, pollination services and genetic diversity. There is a need to encourage the restoration of traditional orchards and creation of new ones in appropriate areas that will enhance pollination, biodiversity, genetic diversity and sense of place, while expanding an economically viable local fruit production industry. Encourage the purchasing of local produce to benefit climate regulation and local culture.	**Food provision** **Pollination** **Genetic diversity** **Regulating soil erosion** **Regulating soil quality** **Biodiversity** **Climate regulation** **Sense of place/ Inspiration** **Sense of history**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Food provision cont.		**... continued from previous page** Traditional orchards (2 per cent of the NCA) concentrated particularly between Tenbury Wells and Bromyard, supply mainly apples and pears for dessert, cooking, cider and perry making. This area supports 580 ha of traditional orchards.				
Timber provision	Existing woodland	Woodland covers some 5 per cent of the NCA. A good proportion of which lies on ancient woodland sites (2 per cent) or on ancient re-planted woodland (PAWS) (1 per cent). The woodland is generally deciduous with small farm and woodland copses, game plantations and riparian trees.	Local	The opportunity for commercial timber production from conifer plantation is limited and much of the broadleaved woodland is of high nature conservation value. Many of the woods are actively managed to produce timber and wood for fuel.	Realise opportunities to work with local land managers and communities to manage any under-managed woodlands in this NCA to provide a local source of timber and enhance biodiversity. Opportunities for expansion of woodland including conifer woodland where appropriate, in line with the Combating Climate Change: A role for UK forests report, the Woodland Opportunities Ancient Woodland landscape map (West Midlands).[10]	**Timber provision** **Biodiversity** **Sense of place/ Inspiration** **Regulating soil erosion** **Climate regulation** **Regulating water flow** **Biomass**

[10] *Woodland Opportunities Map: Ancient woodland landscapes and restoration areas,* Forestry Commission (2007; URL: www.forestry.gov.uk/website/forestry.nsf/byunique/infd-6n4gzu)

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Water availability	Rivers and streams Local aquifer	The rivers Lodon and Frome rise in the central plateau of the NCA and run south through the NCA. The River Frome is the largest section of river that passes through the NCA (17 kilometres). The other rivers, the Leadon, Lodon, and the Lugg have very small sections. The River Leadon and River Frome are the dominant catchments in this area in the wider Severn Vale. The main demand for water in the catchment comes from agriculture and to a lesser extent public water supply. Many of the dispersed and scattered settlements and dwellings across the area draw water from local, private bore holes. Small, local covered reservoirs and water towers feature across the area, supplementing the domestic water supply.	Regional	There is 'restricted water available for licensing' 3 in the River Frome and River Leadon. However for new surface water licences this means that there is 'no water available for unconstrained abstraction'. Low flow levels, due to over abstraction, are detrimental to the biodiversity of the rivers. Measures to reduce abstraction by retaining more water on the land through water storage reservoirs and semi-natural wetland habitat and better soil quality (increased permeability) can potentially alleviate dips in river flow. A recent 'opportunity mapping' study showed where woodlands could actively contribute towards the objectives of the Water Framework Directive, by improving water quality and helping to reduce flood risk. [11]	Maintain ecological flow levels in watercourses by managing abstraction so as to avoid over abstraction resulting in low flow levels. Well-designed winter water storage reservoirs on farms could help alleviate the levels of abstraction for water used on farmland. Slow the flow of water across the landscape to maintain more constant river levels through the creation and restoration of ponds, scrapes and more naturalised drainage. Hedgerows across steeper slopes will also help to slow the flow of water from the land. Encourage and support opportunities for woodlands to contribute to reducing soil erosion, improving water quality and reducing flood risk'. Support measures to maintain and improve soil structure to increase permeability and water retention by the soil.	**Water availability** **Biomass** **Climate regulation** **Regulating water quality** **Regulating water flow** **Regulating soil erosion** **Food provision** **Biodiversity** **Geodiversity**

[11] Midlands Woodlands for Water Project, Phase 1: Opportunity mapping final report, Forestry Commission (2013; URLs: www.forestry.gov.uk/website/forestresearch.nsf/ByUnique/INFD-97XGXX and www.forestry.gov.uk/pdf/MidlandsReport.pdf/$FILE/MidlandsReport.pdf)

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Genetic diversity	Orchards	Traditional orchards are particularly numerous throughout the NCA forming part of the larger fruit growing area of the Severn Vale and central Herefordshire. They contain a vast bank of genetic material including many historical and scarce varieties and cultivars of apple, pear, cherry and damson.	Regional	Genetic diversity of orchard fruit varieties are important to maintain in order to safeguard food provision and afford increased resilience to the effects of climate change and disease. Maintaining the genetic diversity of orchard varieties is equally important to maintaining both cultural ecosystem services in relation to the historically important landscapes within the NCA and to maintain the sense of place.	Raise awareness of local varieties and link orchard owners with suppliers and suitable markets. Encourage regeneration of orchards and planting of local varieties and the creation of new orchards where appropriate.	**Genetic diversity** **Food provision** **Pollination** **Climate regulation** **Biodiversity** **Sense of place/ Inspiration** **Sense of history**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biomass energy	Existing woodland	Woodland covers 5 per cent of the NCA with 2 per cent occurring on ancient woodland sites.	Local	Many of the woodlands are actively managed to produce timber and wood for fuel. Any large scale block planting of short rotation coppice or miscanthus, particularly within the valleys of the area, could potentially obscure smaller field patterns and locally distinctive hedgerow damson trees. Similarly, planting on the open plateau may interrupt open nature of the area. Opportunities for short rotation coppice and miscanthus exist in the NCA, however the location is critical due to the potential impact on sense of place (views and intervisibility), water use requirements, chemical inputs and affect on soil structure and erosion. Damage to historic features such as field boundaries, parkland should also be avoided Short rotation coppice and miscanthus could potentially be accommodated on gentler slopes and valley bottoms while ensuring habitats such as meadows and traditional orchards are avoided.	There is an opportunity to increase production of biomass through introducing management in currently unmanaged broadleaved woodlands/orchards and encouraging miscanthus where appropriate. Realise opportunities for planting miscanthus and short rotation coppice for biomass where negative impacts on other services and assets are avoided.	**Biomass energy** **Climate regulation** **Biodiversity** **Regulating soil erosion** **Regulating soil quality** **Regulating water quality**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Climate regulation	Soils Woodlands Permanent pasture Orchards Wood pasture and parkland Hedgerows and hedgerow trees	The soils in this NCA generally have a low carbon content of 0 to 5 per cent. However the concentration of permanent pasture and ancient woodland contributes through soil carbon storage which would otherwise be released by aerobic microbial activity on exposure of the soil to air through activity such as ploughing. In addition other habitats including orchards, wood pasture and parkland, ancient hedgerows and associated trees also provide important carbon stores.	Local	Currently there is little storage of carbon due to the nature of the soils in this NCA. Where there is increased storage under woodlands and permanent grasslands there is an opportunity to maintain the carbon storage potential of the area and increase it through the extension of these habitats. High concentrations of permanent pasture retain carbon, an increased proportion of which would be released through microbial action if the soil was ploughed and exposed to air. Production of inorganic fertilizer is particularly energy intensive and large volumes of greenhouse gases emitted during production. Soil testing enables the calculation of optimal fertiliser application rates, so reducing excess use of fertiliser, saving energy, money and benefiting water quality.	Seek opportunities to expand the area of woodland adjacent to existing ancient semi-natural woodland sites to realise the potential for further, long-term carbon sequestration and storage associated with woodland management. Maintain, reinstate and create new traditional orchards, hedgerow networks and a succession of hedgerow trees, which all sequester and store carbon both through the trees and undisturbed soils beneath. Prevent CO_2 release by maintaining permanent pasture and ensuring it is managed within a sustainable regime. Work with the farming community to ensure they have adequate access to soil analysis to enable the calculation of appropriate levels of fertilizer inputs to reduce energy wastage and benefit water quality.	**Climate regulation** **Biodiversity** **Water availability** **Regulating soil erosion**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water quality	Hedgerows and buffer strips across steeper slopes Watercourse Fencing Permanent grassland Appropriate tillage Good livestock management Buffer strips alongside watercourses Diffuse and point source pollution prevention	The rivers in this NCA have a 'poor' ecological status, or have not been assessed. The chemical status of rivers in the NCA has not been assessed. However, the River Wye into which the rivers Lodon and Frome flow, has a 'good' chemical status. The River Teme, into which some of the tributaries in the north of the NCA flow, is 'failing to achieve good' chemical status. The NCA lies within two Defra Priority Catchments – the Teme and the Lugg. In the north and east, priorities in the Teme catchment are to reduce the impact of grazing and over-wintering livestock on water quality; minimise the impact on watercourses from point source farmyard pollution; and reduce soil and nutrient run-off from intensive grassland and cultivated fields[12]. Encompassing most of the rest of the NCA, priorities in the Lugg catchment are to reduce run-off from farmyards and fields and to keep livestock out of watercourses, particularly in the 'target area' in which much of the southern half of the NCA lies[13].	Regional	A recent 'opportunity mapping' study showed where woodlands could actively contribute towards the ovbjectives of the Water Framework Directive, by improving water quality and helping to reduce flood risk. Improvements are required to the water quality through selective reduction in inputs from point source pollution through better land management and stock husbandry and the buffering of watercourses, which should help address specific pollutant issues in waterbodies. Improved farm infrastructure will reduce sources of pollution and further contribute to maintaining good water quality. This should include the reinstatement of hedgerows, particularly across slope, the introduction of buffer strips to arable and temporary grass ley and alongside watercourses, the relocation of farm tracks and gateways as appropriate and principally the engineering of slurry and wastewater management systems from and within farmyards.	Work with landowners to reduce point source pollution emanating from poor and failing farm infrastructure and access of livestock to watercourses. Increase areas of permanent pasture with extensive grazing and low fertiliser inputs. Where necessary and appropriate provide interlinking grassland buffer strips and grass verges running across slopes adjacent or near to waterbodies. Create new woodlands, principally on steeper valley sides where they can reduce soil erosion, improving water quality and the amount of diffuse pollution reaching watercourses.	**Regulating water quality** **Biodiversity** **Regulating soil erosion** **Regulating soil quality**

[12] *Capital Grant Scheme – Funding Priority Statement 2010/11, Catchment 28: River Teme,* Natural England
[13] *Capital Grant Scheme – Funding Priority Statement 2010/11, Catchment 7: River Lugg,* Natural England

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow	Rivers and streams Wooded, steep-sided valleys Permanent pasture Semi-natural habitats Existing and new flood storage areas/flood plain Wet woodlands	The landscape of much of this NCA is a gently rolling plateau, dissected by small, narrow valleys and streams and is predominantly rural. South of the Teme the land rises to an arc of high ground which extends from Hedgon Hill in the south through Garmsley Camp to Broadheath. From this, steeply incised valleys drain westwards to the Lugg, northwards to the Teme or southwards to the Frome. There is a relatively low level of fluvial flood risk in this area, generally in small pockets that are fairly far apart[14]. However, around the entire perimeter of the plateau, but particularly towards Bromyard and south of the NCA towards Bishop's Frome in the Herefordshire Lowlands and north towards Tenbury Wells flooding is a moderate to significant risk[15].	Regional	Although most of the NCA is at little or no risk from flooding, management of catchments is critical to the regulation of flooding in key settlements such as Bromyard at the lower reaches of watercourses. Flood events are expected to increase with climate change. Water discharges rapidly from the plateau and along the short and steep stream and river valleys, accumulating around the fringe of the plateau where it meets slower flowing watercourses. Man-made trends in land management and land-use, mainly cultivation patterns and timings, have increased flood risk arising in this area[14]. The catchment management plan suggests that by working with local interest groups there is an opportunity to introduce different ways of working that can reverse these trends and also help to offset rising flood risk due to climate change[14]. **Continued on next page...**	Encourage best practices in land-use and in land-management to restore more sustainable natural flood plains and to reduce run-off. Create areas of wet woodland in appropriate places to reduce diffuse pollution and flood risk. Work with key partners and landowners to identify the most suitable sites for flood storage in different seasonal scenarios. Encourage the use of river valleys for flood storage[16] (framework to identify projects which have benefits for biodiversity and flooding); divert excess winter rainfall into reservoirs for summer use and combine flood risk management with improving biodiversity[17]. Implement the advice provided by flood storage area design guides. These can be used to introduce biodiversity design into both new and existing flood storage areas.	**Regulating water flow** **Regulating water availability** **Regulating soil erosion** **Regulating soil quality** **Biodiversity** **Sense of place/ Inspiration**

[14] *River Severn Catchment Flood Management Plan, Summary Report,* Environment Agency (December 2009) [15] *Flood Map*, Environment Agency (2010) [16] *Working with Natural Processes to Manage Flood and Coastal Erosion Risk: A guidance document,* Environment Agency (March 2010) [17] *Achieving More: Operational flood storage areas and biodiversity. Final report,* Environment Agency (2009; URL: http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/geho0610bsoa-e-e.pdf)

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow cont.				**... continued from previous page** Naturalising flood plains and creating wetland habitats (some outside of the NCA) will reduce flood risk downstream in settlements (within and outside the NCA). Creating conditions for rivers to re-engage with their flood plains and re-connecting different parts of the flood plain, as well as increasing storage of water through winter water storage areas where possible will help make a significant contribution to mitigating flood risk. There needs to be appropriate management in the wider catchments aimed at reducing surface water run-off through, for example, best practice cultivation techniques and timing, woodland planting, and creation of buffer zones adjacent to river banks. Increasing the levels of organic matter to improve overall soil structure and increase the permeability of soils across the plateau will further contribute to water retention and reduce rates of run-off.	Slow run-off from the plateau areas by encouraging the planting of strategically located deciduous woodland, repairing eroded channels and tracks and cross-slope cultivation. Increase the water storage capacity of the plateau by encouraging permanent grass and increased organic matter in soils. Manage cultivation in valleys and adjacent to watercourses to optimism water penetration. Reinstate permanent pasture adjacent to watercourses along narrow valleys.	

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil quality	Soils Woodland Permanent pasture Hedgerows	This NCA has 2 main soilscape types: slightly acid loamy and clayey soils with impeded drainage, covering 87 per cent of the NCA and freely draining slightly acid loamy soils covering 13 per cent.	Regional	The slightly acid loamy and clayey soils with impeded drainage are easily poached by livestock and compacted by machinery when the soil is wet. Weak topsoil structures are easily damaged. Careful timing of activities is required to reduce the likelihood of soil compaction. On the other hand, the freely draining slightly acid loamy soils have potential for increased organic matter levels through management interventions. They may be valuable for recharging groundwaters that provide the base flow to many of the rivers of the NCA, requiring the maintenance of good soil structure to aid water infiltration and the matching of nutrients to needs to prevent groundwater pollution. Organic matter may be being lost through tillage across more intensively farmed areas away from concentrations of permanent pasture. Lack of long-established organic matter makes soils more susceptible to compaction and erosion. Soil plays a very important part in the preservation of archaeological or palaeoenvironmental remains. Therefore appropriate management, be that stocking levels or use of machinery, needs to be sensitive near to areas that hold important historical and archaeological remains.	Support management practices which reduce damage to soil quality and would result in increases in food production in the long term. Increases in soil quality will reduce negative impacts from farming on the natural environment through reduction in run-off pollution; this will improve water quality and biodiversity. Support measures which employ minimal tillage and encourage organic matter incorporation to increase soil organic matter and also relieve soil compaction to improve soil structure and conditions for soil fauna, increasing water infiltration on a landscape scale. Work with the farming community to achieve appropriate stocking regimes which avoid poaching and reduce erosion. Identify and apply grazing regimes that increase sward diversity and increase the deposition and overall levels of organic matter. Manage the most sensitive soils with extensive grazing regimes to reduce stocking densities and avoid soil compaction. Also avoid compaction through unnecessary machinery use particularly during protracted periods of wet weather.	**Regulating soil quality** **Regulating soil erosion** **Regulating water quality** **Regulating water flow**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil erosion	Hedgerows Woodland Soils Permanent pasture	All the soils in this NCA are at risk of soil erosion. The slightly acid loamy and clayey soils with impeded drainage are easily compacted when wet and are susceptible to capping and slaking, leading to soil erosion as a result of surface water run-off, especially on steeper slopes. The freely draining slightly acid loamy soils have enhanced risk of soil erosion on moderately or steeply sloping land where cultivated or bare soil is exposed, exacerbated where organic matter levels are low after continuous arable cultivation or where soils are compacted. There is the potential for wind erosion on some coarse textured cultivated variants. Soil erosion is recognised as concern within this NCA. Almost the entire NCA lies within two Defra Priority Catchments, the River Teme and River Lugg Priority Catchments. Priorities in the Teme catchment include reducing soil run-off from intensive grassland and from cultivated fields[18]. Priorities in the Lugg catchment include keeping livestock out of watercourses to reduce sedimentation as a result of bank collapse, particularly in the 'target area' in which much of the southern half of the NCA lies[19].	Regional	The areas most likely to be at risk are the steeper slopes and in areas of intensive grassland and cultivated fields. Reducing the velocity and quantity of water running over the valley sides would reduce erosion and subsequent sedimentation of rivers and other watercourses. This could be achieved by increasing the amount of permanent pasture, strengthening the hedgerow network, strategically locating new woodlands, introducing buffer strips across slopes and alongside watercourses. The benefits of such changes will be wider, adding to the sense of place as well as increasing the ecological network and biodiversity.	Work with landowners to produce sustainable systems of arable cultivation and well managed livestock to reduce poaching and soil exposure, particularly on the steeper slopes, using measures such as expanding areas of permanent grassland, woodland, dense hedgerows and buffer strips across steeper slopes. Working together with land managers and farmers there is scope to reinstate and strengthen the existing traditional orchard network (currently 580 ha) to create links to the other habitats establishing a coherent and resilient ecological network across the area. Increase cover of woodland, scrub and orchards where possible, targeted at areas of high soil erosion risk. Ensuring appropriate grazing and stocking levels to prevent erosion and compaction. Ensure good management of soils across the area as this can be important for the protection of the historic environment.	**Regulating soil erosion** **Regulating water flow (flooding)** **Regulating water quality** **Biodiversity**

[18] *Capital Grant Scheme – Funding Priority Statement 2010/11, Catchment 28: River Teme,* Natural England
[19] *Capital Grant Scheme – Funding Priority Statement 2010/11, Catchment 7: River Lugg,* Natural England

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pollination	Traditional orchards Lowland meadows Flower-rich hedgerows Wood pasture and parkland Flower-rich roadside verges	Pollination of crops in this NCA is required for orchard fruit and some arable crops which require insect pollination. Hedgerows, many containing fruit trees especially damsons, and traditional orchards provide sources of nectar for pollinating invertebrates both during blossoming and in the ground flora, if managed appropriately. Many roadside verges across the area are parts or relics of former common land and are rich in flowering plants. Lowland meadows and wood pasture and parkland are longstanding habitats found across the area containing a greater variety of flowering plants. Hops, although un-pollinated and male flowers are preferred for brewing purposes, still attract a larger number of pollinating invertebrates.	Regional	Incorporation of flower-rich headlands, hedgerows and buffer strips into agricultural systems maintains a network of nectar sources throughout the farmed landscape. Sympathetic management of road verges can be a beneficial addition to this network and also are aesthetically pleasing instilling a sense of place in people and a legacy of past land use. Although there are a good proportion of habitats within this NCA there is still an opportunity to improve their condition and to expand where appropriate to do so to improve the ecological network and connectivity.	Increase the area of semi-natural habitats, with particular emphasis on unimproved flower-rich grasslands (lowland meadow), and traditional orchard. In addition, encourage the use of nectar and forage mixes in arable land and species-rich hedgerows, to increase the availability of nectar sources in close proximity to food crops requiring pollination. Work with local authorities and parishes to create multifunctional greenspaces incorporating sympathetic management for pollination including appropriate management of road verges into cutting regimes, adding to the network of nectar sources close to pollinated food crops.	**Pollination** **Food provision** **Biodiversity** **A sense of place/ Inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pest regulation	Existing semi-natural habitat Agricultural field margins Species-rich hedgerows Woodland Traditional orchards	There is a good range and spread of semi-natural habitats throughout the NCA which will support species that will aid pest regulation. There is known to be a good bat population in the area contributing to the regulation of airborne insect pests.	Local	Although there is a reasonable spread of rich semi-natural habitats across the NCA there is scope to improve the condition and connectivity of these habitats through appropriate management and to extend their range where possible.	Maintain and expand the area of semi-natural habitats, throughout the NCA to provide a range of niches to support pest regulating species including invertebrates, birds and mammals. In addition, through mechanisms such as agri-environment schemes, encourage the use of field margins, beetle banks and headlands in arable land, to encourage pest regulating species in close proximity to food crops.	**Pest regulation** **Pollination** **Biodiversity** **Food provision**
Regulating coastal erosion and flooding	n/a	n/a	n/a	n/a	n/a	n/a

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
A sense of place/ inspiration	Deeply tranquil rural landscape Steep sided valleys with fast-flowing rivers and streams Traditional orchards Hop growing Traditional, distinctive vernacular architecture Rural hamlets Woodlands	Sense of place is provided by the relatively remote, rolling plateau l andform, which rises gently to higher ground in the centre where numerous steep-sided valleys originate. The longstanding cultivation of fruit and hops provides a strong identity to the area, numerous hop kilns (many now converted) providing a visual reminder of the cultural link to the hop growing tradition. A strong local vernacular architecture ranging from black and white timber framed buildings through simple stone and rubble-built cottages and barns, to formal gentry houses. Distinctive damson hedgerows are typical of this area and their prominent white blossom and distinctive deep purple fruit create a strong identity to the area. The rich red soils of the area provide a further prominent and distinctive colour in the landscape. **Continued on next page...**	Regional	The open cultivated plateau is sparsely populated with hamlets, isolated churches, small manor houses and local country houses, typically grouped close together with small blocks of parkland trees, and connected by a network of narrow sunken lanes. Many of the hamlets comprise buildings in local reddish brown and grey sandstone, with typical Herefordshire hipped roofs on the manor houses and larger farms. Settlement is closely linked with the underlying geology and topography and historical land uses. Plateau woodlands of ash, oak and field maple provide contrast with the rolling arable and pasture farmland, while fruit orchards and hop yards are particularly characteristic features that add to the wooded character and reference the area's long associations with cider and beer. The steep sided valleys or 'dingles' support a range of habitats, including ancient semi-natural woodlands, wet and dry grasslands and the rivers of the NCA.	Maintain and restore the characteristic ancient woodland along the steep valley sides. Work with land managers to find opportunities to maintain and restore distinctive traditional orchards and hops where practical and work to find more markets for produce to ensure their future viability and sustainability. Maintain and restore wood pasture and parkland, and parkland and hedgerow trees that provide a wooded feel, and unimproved grasslands along river valleys. Explore opportunities for sustainable tourism initiatives that will increase visitors' environmental awareness and improve profitability of local businesses, while protecting the special qualities of the area.	**Sense of place/ inspiration** **Sense of history** **Geodiversity** **Recreation** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
A sense of place/ inspiration cont.		**... continued from previous page** Quiet valley-side hamlets and farmsteads are typically linked by narrow, deeply sunken lanes. A sense of inspiration and escapism is likely to be associated with much of the intimate valley landscapes, with distinctive views of traditional buildings, hamlets, traditional orchards and woodland and the presence steep dingles and of running water.		Development pressure is limited and concentrated most notably around Bromyard. Elsewhere the agrarian character of the area is generally maintained.	Encourage appropriate local development that is accessible to local people and particularly the principles of incorporating green infrastructure into new and existing development in and around Bromyard. Promote and encourage the use of local building materials and traditional techniques where possible.	

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of history	Scheduled Ancient Monuments (SAM) Mesolithic, Neolithic and bronze-age and archaeological features throughout the landscape Registered and other historic parks and gardens Remnants of traditional fruit growing areas – orchards, cider houses and hop kilns Historic buildings, particularly ancient churches and historic agricultural buildings Medieval settlement patterns	There are a range of designated historic assets including 21 Scheduled Ancient Monuments, 2 Registered Parks and Gardens – Kyre Park and Brockhampton Park. The history of this landscape is evident in Mesolithic, Neolithic and bronze-age archaeology on the higher ground, as well as in the dispersed Medieval settlement pattern and the generally irregular or sub-rectangular field patterns incorporating some sections of Roman road. The historic environment is very distinctive; old orchards along the valley floor and the local types of hop kilns, cider houses and farmsteads, as well as other traditional buildings of local reddish brown and grey sandstone and the use of timber framing in some of the manor houses and the oldest buildings.	Regional	The area contains a wealth of visible built and natural historic features of interest. The range of features present in the area allows for study of past human activity, informing current land management. Emphasis should be placed on the need to continue to protect and interpret the wealth of heritage present and the overall historic environment present. Buried and earthwork heritage features are at some risk from inappropriate cultivation methods. There is limited evidence for the active management of historic landscape. In 1918 about 3 per cent of the NCA was historic parkland. By 1995 it is estimated that 64 per cent had been lost with about 33 per cent of the remaining parkland being covered by a Historic Parkland Grant, and about 7 per cent included within an agri-environmental scheme. Traditional buildings within farmsteads are often neglected and no longer of use due to modern housing requirements for livestock. 70 per cent of historic farm buildings remain unconverted.	Explore opportunities to provide interpretation to purvey the importance of historic land use in shaping the current landscape. The provision of recreational opportunities such as circular walks and themed local events linked to the positive management and conservation of historic features would help to aid understanding, enjoyment and promote a sense of well-being. Seek to ensure that conversions and re-use of historic buildings is sympathetic, employing innovative and sustainable techniques and uses where appropriate. Work with farmers and land owners to seek ways to preserve the setting and historical structure of gentry houses and estates.	**Sense of history** **Sense of place/ Inspiration** **Biodiversity** **Recreation** **Geodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Tranquillity	Ancient woodland River-side walks Topography Traditional orchards and hops	Tranquillity is a significant feature of the NCA, with 92 per cent classified as 'undisturbed' according to the CPRE intrusion map. The area remains largely unaffected by development and is remote from large settlement and transportation routes, excluding the A roads in the southern half of the NCA. Bromyard is the only settlement of significant size within the NCA. A sense of tranquillity is likely to be particularly associated with the steep wooded valleys and valley bottom pastures and the hill-top commons. Other tranquil places include the woodlands, parklands and orchards on the plateau and the traditional hamlets connected by narrow sunken lanes.	Regional	The topography and climate of the area are important contributors to the high levels of tranquillity in that they limit opportunities for development and any major infrastructure.	Protect the area from inappropriate development and infrastructure that would detract from the sense of remoteness and tranquillity of the area.	**Tranquillity** **Sense of place/ Inspiration** **Sense of history** **Biodiversity** **Recreation**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Recreation	Rights of way network Tranquil landscape Rivers Ancient woodland Historic and geological features - Geopark	Recreation is supported by 647 km of public rights of way at a density of 1.87 km per km^2, as well as 276 ha of open access land covering just less than 1 per cent of the NCA. There are a number of regional trails such as the Herefordshire trail, Three Rivers ride, Three Choirs way (creating a link to the Malvern Hills NCA), that provide good opportunities for recreation throughout the area. The eastern part of the NCA lies in the Abberley and Malvern Hills Geopark. This includes Bromyard Down and Bringsty Common. The Geopark itself meanders its way for 109 miles through the Abberley and Malvern Hills Geopark from Bridgnorth to Gloucester, the Geopark Way passes through stunning countryside as it explores 700 million years of geological history. The trail offers varied walking alongside rivers, through forests, along ridges and across valley floors and majestic views. Brockhampton, a National Trust parkland provides access to the public and particularly the population of Bromyard, as do Bromyard Downs and Bringsty Common. Bromyard is characterised by traditional half-timbered pubs providing a further visitor attraction.	Regional	Recreation reconnects or maintains people connection with the landscape and ecosystems that support them and encourages a valuing of their surroundings and promotes a sense of wellbeing. The rights of way network through much of the area is probably under-used, although parts of Bringsty Common and Bromyard Downs attract many local users. Quiet lanes and often quiet main roads, combined with a challenging topography attract keen interest from cyclists.	Further opportunities for enhancements to the public rights of way network should be realised. Improved access opportunities should incorporate enhanced interpretation, particularly of heritage assets and features and biodiversity.	**Recreation** **Biodiversity** **Tranquillity** **Sense of place/ Inspiration** **Sense of history**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity	Rivers Frome and Lodon and tributaries Deciduous woodland (particularly semi-natural and ancient woodland and wet woodland) Lowland meadows Traditional orchards Wood pasture and parkland Commons Lowland acid grassland Hedgerows	Nine per cent of the NCA is identified as priority habitat, including deciduous woodlands, wet woodland, lowland meadows and traditional orchards and wood pasture and parkland, lowland acid grassland and a very small proportion heath. The rivers south of the plateau drain in to the River Wye SAC and therefore have implications for its condition. In addition to 5 SSSI that lie either wholly or partially within the NCA totalling less than 1 per cent of the NCA. Ancient woodland forms 2 per cent of the woodland resource. Traditional orchards form part of the larger fruit growing area in Worcestershire, Herefordshire and Gloucestershire. They are known to support the golden eye lichen, *Teloschistes chrysophthalmus*. **Continued on next page...**	Regional	Rivers and their flood plains have noticeably been affected in recent years by increase flooding and dried up river beds, both signs of more extreme weather events. Adaptation to change will be critical. By increasing wet woodland, creation of buffer zones adjacent to watercourses, creation of wetland and flood water storage areas will help to improve the capacity of the rivers and watercourses to hold and store water helping to adapt to a changing world. Ancient woodland is one of the most important habitats in this NCA. Threats such as disease, climate change and lack of management all pose risks. But by managing risks, adhering to guidelines and addressing possible actions to address disease, managing woodlands and replanting where appropriate, can help to minimise the risks. Although there is a good proportion of lowland meadows, fragmentation has occurred over a period of time where pasture has been ploughed and improved for agriculture. Some wood pasture and parklands have also been ploughed and given over to arable land. However Brockhampton is a good example of the retention of this habitat.	Protect and manage the water environment (rivers, streams and other waterbodies) as a multi-functional resource. Appropriately manage the streams and rivers to maintain where possible natural meanders, their associated vegetation and marginal habitats. Conserve and protect the quality and quantity of surface waters through partnership working at the catchment scale, supporting existing catchment initiatives and encouraging the implementation of land management practices to improve the quality of water and help meet the objectives of the Water Framework Directive. Increase areas of permanent pasture with extensive grazing and low fertiliser inputs. Where necessary and appropriate provide interlinking	**Biodiversity** **Recreation** **Climate regulation** **Pollination** **Sense of place/ Inspiration** **Sense of tranquillity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity cont.		**... continued from previous page** This exquisite species had previously been thought extinct in Britain. Additionally orchards within Herefordshire support England's main population and concentration of noble chafer beetle currently classified as vulnerable in the UK. In addition to being a key area for mistletoe which thrives on old fruit trees, lime and poplar. Traditional orchards are particularly numerous in the NCA with notable concentrations in the east and around the settlements of Risbury and Kimbolton.		Incorporation of flower-rich headlands, hedgerows and buffer strips into arable systems maintains a network of nectar sources throughout the farmed landscape, sympathetic management of road verges can be a beneficial addition to this network and also are aesthetically pleasing instilling a sense of place in people. Once extensive in the NCA traditional orchards are present as scattered remnants with notable concentrations in the east and around the settlements of Risbury and Kimbolton. There has been a decline in the condition of older orchards with loss of variety of tree forms. However a welcome boost from a Heritage Lottery Funded orchard project for 3 Counties :- Herefordshire, Gloucestershire and Worcestershire will provide support and advice on management, training and survey techniques and replanting to help to create a cohesive network of orchards, develop skills and provide opportunities to support the communities to be actively engaged in reversing this decline. Damson hedgerows, a regular feature in this landscape further contribute to the network of orchard biodiversity. Reference to historical maps shows the location of former orchard sites. This information can be used to guide appropriate habitat restoration or re-creation strategies as part of development schemes. **Continued on next page...**	grassland buffer strips and grass verges running across slopes adjacent or near to waterbodies. Maintain the current extent of semi-natural and ancient woodlands. Introduce active management where possible and explore opportunities for expansion where appropriate, in line with the Combating Climate Change: A role for UK forests report and the Woodland Opportunities Ancient Woodland landscape map (West Midlands)[20]. to enhance landscape character, recreation opportunities, biodiversity and the benefits it can bring to soil quality and long term carbon storage and the reduction in diffuse water pollution. Seek to manage lowland meadows to increase biodiversity and restore degraded habitats and seek opportunities to create new areas reducing fragmentation, increasing buffer zones and creating better connectivity.	

[20] *Woodland Opportunities Map: Ancient woodland landscapes and restoration areas,* Forestry Commission (2007; URL: www.forestry.gov.uk/website/forestry.nsf/byunique/infd-6n4gzu)

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity cont.				**...continued from previous page** Common land across the area such as Bringsty common may benefit from improved management, connectivity with other semi-natural habitats, promotion of sustainable grazing regimes and further opportunities for uptake of environmental incentives to enhance the biodiversity value as well as improve regulating services and contribute to enhanced sense of place.	Protecting common land by controlling bracken and scrub and restoring lowland acidic grassland; continuing to work with communities to re-connect them with common land; a fine example being Bringsty Common. Explore a combination of new and traditional management practices (such as stock grazing). This will help to create and maintain the structural diversity needed to support the range of plants and animals associated with these habitats and contribute to the sense of place, history and cultural associations with common land. Maintain and restore traditional orchards. Improve connectivity with deciduous/ancient woodland using associated woody habitats such as hedgerows and wood pasture and parkland. Seek to support landscape scale projects such as -The Herefordshire Parkland Project (funded by HLF) to create a legacy to protect and manage wood pasture and parkland. Use evidence to adopt and implement a landscape scale approach to habitat restoration, such as local work on opportunity mapping and identification of priority areas in Herefordshire and Worcestershire to inform landscape scale projects and local development plans and decisions to improve connectivity of the fragmented habitats of woodland, orchards, lowland meadow, wood pasture and parkland, and common land benefiting biodiversity, sense of place and strengthening landscape character.	

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity	Geomorphological processes Limestone outcrops Glacial moraines Local stone used in historical and vernacular buildings	There are 11 Local Geological Sites (LGS) within the NCA. The geology and geomorphology of the Herefordshire Plateau create its distinctive landscape and have shaped the distribution of wildlife habitats and land use. Dissected by many small valleys and streams, (such as the Sapey Brook,) deeply incised into the landscape the River Frome being the largest. Some streams had their courses diverted during the ice age and deep valleys cut by meltwater, such as Hill Hole Dingle. Fromes Hill - outcrop of the Bishop's Frome Limestone. Geological transition is often marked by a line of springs, where water cannot penetrate the impervious mudstone below. The landscape provides a good example of where land falls from the sandstone (of the high land) to the mudstone of the lowlands. **Continued on next page...**	Regional	The NCA offers excellent opportunities for research and furthering our understanding of geological and geomorphological features – this is particularly important for helping to demonstrate the links between geology, ecology, archaeology and the socio-economic development of the NCA. The Abberley and Malvern Hills Geopark[21] is a fine example of this, driven by local organisations seeking to celebrate their geological heritage and achieve sustainable development through geotourism.	Conserving and managing the characteristic geodiversity. Identify and realise opportunities for enhanced access to and understanding of geodiversity and soils within the area. Maintain natural geomorphological processes, particularly along rivers that contribute to the regulation of flooding. Support the use of local stone as a building material to help maintain local distinctiveness.	**Geodiversity** **Biodiversity** **Sense of place/ Inspiration** **Sense of history** **Regulating water flow**

[21] URL: http://geopark.org.uk/pub/

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity cont.		**... continued from previous page** Glacial moraines are found in the west of the area near Stoke Prior and Stretford, which mark the eastern limit reached by the Welsh ice in the Devensian Glaciation. There are scattered remnants further east and south of deposits of the earlier Anglian Glaciation. The eastern part of the NCA lies in the Abberley and Malvern Hills Geopark. This includes Bromyard Down and Bringsty Common. The sandstones of the Old Red Sandstone vary in colour from red to grey have been used for dwellings and churches locally. The underlying rocks also give rise to the distinctive colour of soils and their fertility and versatility.				

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