



## Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper,<sup>1</sup> Biodiversity 2020<sup>2</sup> and the European Landscape Convention,<sup>3</sup> 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.

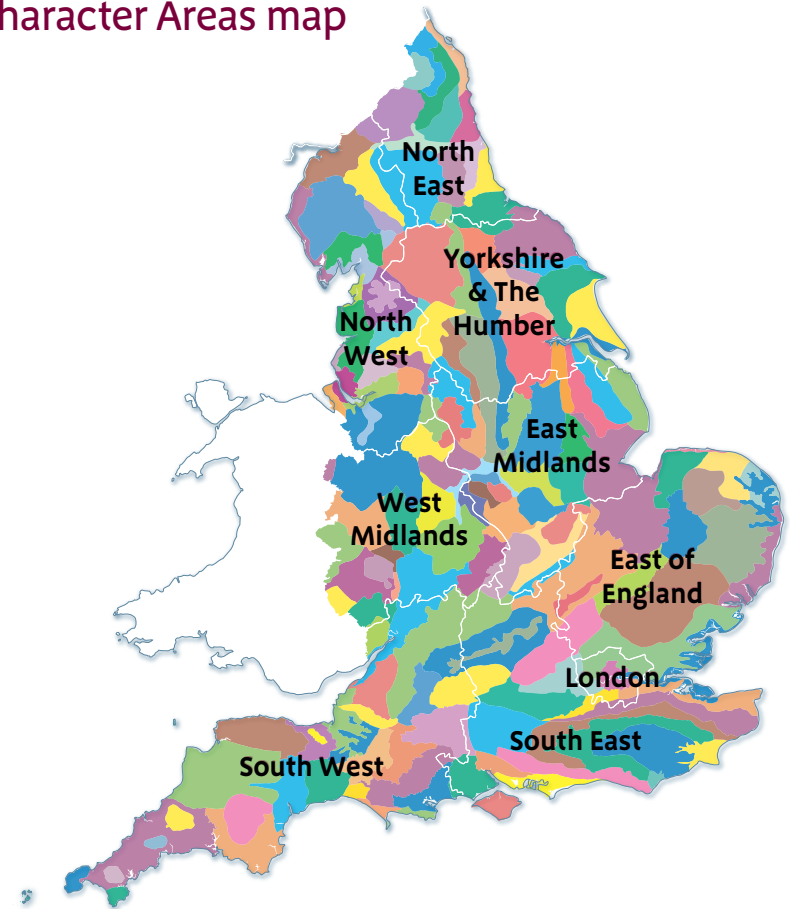
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and 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](mailto:ncaprofiles@naturalengland.org.uk).

## National Character Areas map



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

<sup>2</sup> 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](http://www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf))

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

## Summary

The lower valleys of the rivers Severn and Avon dominate this low-lying open agricultural vale landscape made up of distinct and contrasting vales, including Evesham, Berkeley, Gloucester, Leadon, and Avon, with Cotswold outliers like Bredon Hill punctuating the otherwise flat vale landscape. The M5 motorway runs through the centre and the eastern edge of the area. A small proportion of the National Character Area (NCA) is urban and includes towns such as Worcester, Cheltenham, Gloucester and Stratford-upon-Avon, with its world famous Shakespearian connections. Industrial development is still important at Avonmouth and the archaeology/heritage of former industry is prominent around Sharpness Docks, Pill, Gloucester-Sharpness Canal and Stroudwater Canal. The majority of the area is used as agricultural land.

Woodland is sparse and it is a generally open landscape. Traditional orchards are widespread across the area and with surrounding NCAs support the main UK population of the noble chafer beetle and provide an important genetic resource of local fruit varieties. Important concentrations of lowland meadow and floodplain grazing marsh support a range of priority species from green winged orchid and brown hairstreak butterfly to true fox sedge and a wide range of waterfowl. The Walmore Common Special Protection Area (SPA) and adjacent Severn Estuary SPA are of international importance for wintering wildfowl, such as Bewick's swan and shelduck.

The oolitic limestone outliers of the Cotswolds AONB overlie this area and the Bredon Hill SAC is particularly important as a site for the rare

violet click beetle. There are important staircases of fossil-bearing river terrace gravels containing evidence of Palaeolithic and Mesolithic human settlement, and rare inland salt deposits at Droitwich. Key ecosystem services within this NCA include flood regulation, food production due to extensive agriculture and sense of history which is internationally important due to its links with Shakespeare. Future challenges and opportunities include pressure from development around urban and industrial areas, pressure to increase food production and large scale wetland habitat restoration to aid flood management.

Click map to enlarge; click again to reduce.



## Statements of Environmental Opportunity

- **SEO 1:** Protect and manage the landscape, heritage and biodiversity associated with the Severn Estuary, the river valleys and other hydrological features, planning for a landscape scale expansion of wetlands, inter-tidal habitats and unimproved grasslands along river floodplains through, restoration, expansion and re-linkage of existing remnant areas of semi-natural habitat.
- **SEO 2:** Seek to safeguard and enhance this area's distinctive patterns of field boundaries, ancient hedgerows, settlements, orchards, parkland, small woodlands, chases, commons and floodplain management with their strong links to past land use and settlement history, and for the benefits this will bring to soil erosion, soil quality and biodiversity.
- **SEO 3:** Reinforce the existing landscape structure as part of any identified growth of urban areas, hard infrastructure and other settlements ensuring quality green infrastructure is incorporated enhancing health, access, recreation, landscape, biodiversity and geodiversity.
- **SEO 4:** Protect geological exposures and maintain, restore and expand semi natural habitats throughout the agricultural landscape, linking them together to create a coherent and resilient habitat network enabling ecosystems to adapt to climate change.



Cattle grazed saltmarsh Northwick Warth, Severn Estuary, Avon.

## Description

### Physical and functional links to other National Character Areas

To the western edge of the NCA the Malvern Hills form an abrupt feature, rising steeply out of the Severn Vale. On the eastern boundary the area flows more subtly into the Arden and Dunsmore and Feldon NCAs. There is a similarly subtle boundary with the Teme Valley and Herefordshire Plateau NCAs to the north and north-western edges of the area. From the Forest of Dean, Malvern Hills and the Cotswolds there are impressive views over the contrasting low lying and level landscape of the area and respectively there are expansive views outwards to the surrounding hills. The M5 motorway running right through the area, used by thousands of people each day, also provides widespread views of this landscape and those of neighbouring NCAs.

The River Severn flows from the Mid Severn Sandstone Plateau into the area and the Warwickshire Avon flows into the area from the Arden and Dunsmore and Feldon NCAs. The Teme, rising from the Welsh border, flows across the Clun and North West Herefordshire Hills, Herefordshire Lowland and Teme Valley NCAs entering the Severn and Avon Vales from the north of the Malvern Hills, while the Leadon, rising in the Herefordshire Plateaux flows across the Herefordshire Lowlands and South Herefordshire and Over Severn NCAs, entering the area from the south end of the Malvern Hills.

### Distinct areas

- Cotswold outliers: Bredon, Dumbleton, Churchdown and Robinswood Hills.



The Severn Vale from Crickley Hill and Barrow Wake Site of Special Scientific Interest.

## Key characteristics

- A diverse range of flat and gently undulating landscapes strongly influenced and united by the Severn and Avon rivers which meet at Tewkesbury.
- Prominent oolitic limestone outliers of the Cotswold Hills break up the low-lying landscape in the south-east of the area at Bredon Hill, Robinswood Hill, Churchdown Hill and Dumbleton Hill.
- West of the Severn the Mercia Mudstones predominate, producing poorer silty clay soils. Lias clays in the Avon Valley and east of the Severn create heavy but productive soils. River terrace gravels flank the edges of watercourses.
- Woodland is sparsely distributed across this landscape but a well wooded impression is provided by frequent hedgerow trees, parkland and surviving traditional orchards. Remnants of formerly extensive Chases and Royal Forests, centred around Malvern, Feckenham and Ombersley still survive.
- Small pasture fields and commons are prevalent in the west with a regular pattern of parliamentary enclosure in the east. Fields on the floodplains are divided by ditches (called rhines south of Gloucester) fringed by willow pollards and alders.
- Pasture and stock rearing predominate on the floodplain and on steeper slopes, with a mixture of livestock rearing, arable, market gardening and hop growing elsewhere.
- Unimproved neutral grassland (lowland meadow priority habitat) survives around Feckenham Forest and Malvern Chase. Along the main rivers, floodplain grazing marsh is prevalent. Fragments of unimproved calcareous grassland and acidic grasslands are also found.
- The River Severn flows broadly and deeply between fairly high banks,

north to south, while the Warwickshire River Avon meanders over a wide flood plain between Stratford, Evesham and Tewkesbury. The main rivers regularly flood at times of peak rainfall.

- A strong historic time line is visible in the landscape, from the Roman influences centred at Gloucester, earthwork remains of medieval settlements and associated field systems through to the strong Shakespearian heritage at Stratford-upon-Avon.
- Highly varied use of traditional buildings materials, with black and white timber frame are intermixed with deep-red brick buildings, grey Lias and also Cotswolds stone.
- Many ancient market towns and large villages are located along the rivers, their cathedrals and churches standing as prominent features in the relatively flat landscape.



The view from Stanway Hill across the Severn Vale showing Cotswold outlier hills standing out from the surrounding flat vale; Dumbleton Hill near the centre, Bredon Hill far centre, Malverns left horizon.



## Severn and Avon Vales today

The Severn and Avon Vales is a low-lying open agricultural vale landscape with the Severn and Avon rivers, threading through this large and complex area, providing a unifying feature. The Cotswolds to the south-east, the Forest of Dean to the south-west, and the Malvern Hills to the west, form abrupt boundaries providing prominent viewpoints across the vales. To the north, the Avon Vale rises more gently.

The Severn and Avon Vales are underlain by soft rocks, mostly consisting of the Mercia mudstone group and Liassic clays, which form heavy loam or clay soils. River terrace deposits of sands and gravels are found in the Severn Vale, some of which are worked commercially. An unusual feature is the localised salt deposit around Droitwich, which has been worked since Roman times and gives

rise to inland salt marsh. Narrow riverside levels in the south widen out to the north of Gloucester. The northern section of the area divides into two distinct landscapes characterised by their historic patterns of settlement and field boundaries. In the west, on poor, wet soils of the Mercia Mudstones, there is an ancient landscape of dispersed settlements with numerous open commons (survivors of the historic droving trade which crossed the area) and small pasture fields. To the east, fertile soils on Lias clays give rise to rich agricultural land, particularly around the Vale of Evesham where market gardening predominates. Here settlements are more nucleated, often around a church that stand prominently in this low lying landscape, and fields are medium to large sized, with many following the narrow rectangular fields derived from parliamentary enclosure of medieval strip farming. Many villages are characterised by red brick, stone and black and white timber framed buildings.

The River Severn flows north to south through the NCA and the River Avon meanders east to west between Stratford and Tewkesbury where it joins the Severn. The floodplains of the two rivers, plus a small length of the River Teme north of Worcester, are a major unifying feature through this large and complex NCA. To the south and east the NCA is dominated by nucleated towns and villages; larger town and cities are mostly located on riversides, including the cathedral cities of Worcester and Gloucester, and the Abbey Towns of Tewkesbury and Pershore, which form prominent features in the landscape. To the west of the Severn, settlements are more dispersed in nature, linked by a network of lanes leading to the River Severn and to the higher ground to the west. Alongside the rivers the major land cover is pasture, or further south, estuarine levels. Many of the levels and grasslands have historically been managed as flood meadows, Hams or Lammas meadows. The nationally scarce narrow leaved water dropwort is particularly associated with the Hams and they are locally important for breeding waders.



Local rhubarb displayed at Tewkesbury Food and Drink Festival.



Green winged orchids at Foster's Green Meadows SSSI, an example of species-rich lowland meadow.

Flood embankments, integral to past and current management of the floodplain grasslands, line much of the length of the rivers, allowing agricultural activity in former floodplain criss-crossed by tree lined ditches, called rhines south of Gloucester, and where veteran pollard willows are frequent. South of Gloucester the Severn floodplain takes on an estuarine character, ever widening and with a gently undulating topography. Here wetlands and saltmarshes are internationally important for wildlife such as wading birds. Rare plants such as sea barley, ribbon-leaved water-plantain and true fox-sedge utilise the ponds and rivers of the floodplain.

Oolitic limestone outliers of the Cotswolds stand out prominently in the landscape around Gloucester and to the north-east of Tewkesbury. These well wooded hills are part of the Cotswold Hills, standing as an isolated microcosm of the Cotswolds stranded in the vale. Bredon Hill is an internationally important site (designated Special Area for Conservation) for wildlife, with calcareous grassland and historic parkland containing many veteran trees, which host key invertebrate species such as the violet click beetle and red-horned cardinal click beetle. Across the Vales woodland is generally sparse, localised and broadleaf in nature. However, a well wooded feel is provided in many places by frequent hedgerow trees, traditional or bush orchards and poplar shelter belts, or remnants of Royal Forests and Chases such as Feckenham. One of the largest concentrations of the declining native black poplar is found at Castlemorton.

Across the NCA, many traditional orchards survive, retaining an important genetic resource in a wide range of local fruit varieties. Though commercially superseded by more recently planted bush orchards, the traditional orchards are rich in wildlife, providing the UK stronghold for the noble chafer beetle and nest

sites, including rot holes, for birds and bats. This and surrounding NCAs are a key area for mistletoe, which particularly thrives on old fruit trees, lime and poplar. Mistletoe along with annual orchard blossom and fruit displays, provide striking seasonal features that have strong cultural associations within the area.

In the north-east of the NCA pasture is more frequent. Many species-rich hedges (some of which date back to Saxon times), nationally significant areas of lowland meadow, traditional orchards, wood pasture, parkland and scattered ancient woodlands support many priority species. A high level of public access is enjoyed across the area, including 11 km of the Cotswold Way National Trail and long distance routes such as the Severn Way, Wysis Way and Gloucestershire Way, enabling the public to access and enjoy the natural environment. There are nationally recognised attractions such as sites associated with Shakespeare, Berkeley Castle, the Severn Bore and the Slimbridge wetland reserve which are popular with visitors.

The Roman influence on the landscape is particularly strong around Gloucester. Earthworks of medieval townships and extensive ridge and furrow survive, particularly in Honeybourne parish. There is also a nationally important ridge and furrow fieldscape at Weston Subedge on the eastern fringe of the area. Substantial estates and parklands survive across the area, such as Croome, Sudeley Castle, Overbury (Bredon Hill) and Berkeley.

The M5 runs through the length of the area while at the southern end, and along the tidal Severn, the M4, M48, M49 and M5 motorways together with the two Severn Bridges, riverside power stations, the canals and associated industrial heritage of mills and docks and the current industrial and commercial activity at Avonmouth and Sharpness docks create prominent features.



## The landscape through time

The whole of the NCA is underlain by soft rocks of Triassic and Jurassic age resulting in the fertile soil that has influenced the land use throughout the human settlement of the Vales. West of the Severn the Mercia Mudstones predominate, producing poorer silty clay soils. Lias clays in the Avon Valley and east of the Severn create heavy but productive soils surmounted in places by outliers of the Cotswold oolitic limestone forming Bredon, Dumbleton, Churchdown, Robinswood and Alderton Hills. The oldest Triassic sandstones of the Bromsgrove Formation give rise to hills and ridges fringing the northern part of the area.

Staircases of fossil-bearing river terrace gravels, formed in response to changes in global climate and sea levels, flank the edges of the Severn and Avon and are significant for interpreting environmental change during the Pleistocene. In places these deposits are worked commercially for gravel. Unusual localised salt deposits (from the Triassic Mercia mudstone group) feature around Droitwich, producing rare inland saltmarsh. Peat deposits occur in the Gordano Valley at the southern tip of the area and at Walmore Common, where they give rise to distinctive wetlands.

Along the lower reaches of the Severn, the youngest of the Triassic rocks (Rhaetic) crop out to produce a series of cliffs, for example Hock, Aust and Sedbury Cliffs, revealing further fossil exposures.

Extensive evidence of human settlement as far back as the Palaeolithic and Mesolithic has been found on the gravel terraces, Oldbury provides evidence of Neolithic tools. The second half of the 1st Millennium BC saw major woodland clearance, crop marks still showing where farmstead roundhouses

once stood. Bredon Hill was a focus of early activity, reflected in its surviving standing stones and hill forts. By the Iron Age, settlement had spread beyond the gravels and Droitwich salt was being exploited. This was expanded by the Romans and further evidence of their activity is seen in the legacy of Roman roads crossing the area and in the Roman centre at Gloucester.

The River Severn divides two sharply contrasting areas of historic significance that strongly influence the present character of the NCA. To the west, there is a predominant pattern of highly dispersed settlements, which was well established by the 11th century. The present pattern of small-medium scale fields and an intermingling of assorted fields and open commons, derives from medieval piecemeal enclosures of the once much more extensive heaths that developed through the grazing in common, of the poorer soils.



Flooding from the Severn in Gheluvelt Park, Worcester.

To the east the predominant pattern is of stronger nucleation, with fewer isolated farmsteads. The latter formed as part of the enclosure of open fields that extended across most of the land, between the 16th and 19th centuries. The surviving field boundary patterns give a real impression of the former nature and extent of the medieval townships, with their extensive common arable fields, most notably at the relict ridge and furrow fieldscapes of Weston Subedge. There is a high survival of 17th century and earlier houses across the area, from small wayside houses to the farmhouses of a prosperous class of farmer that developed from the 15th century. There are also some barns of medieval (mostly ecclesiastical) estates with notable concentrations along the Cotswolds Fringe where these estates were active in the clearance of woodland in the 12<sup>th</sup> and 13<sup>th</sup> centuries.

The heavy and fertile soils of the east have supported a concentration of arable farming, while the Vale of Berkeley and Gloucester provided rich pastures for cattle and for over-wintering sheep brought down from the Cotswolds. Fruit orchards for cider and perry developed from at least the 17th century. Horticulture developed on gravel terraces in the 19th century as railways brought urban markets closer.

The 9th-century Anglo-Saxon church at Deerhurst is an internationally significant survival of early Christian architecture, and early Christian centres have developed as important cities and towns across the area, for example, Worcester, Gloucester and Tewkesbury. Later, towns at Evesham and Stratford-upon-Avon developed from the 12th century while Cheltenham developed as a spa town from the 1830s. Shakespeare's Stratford, its theatre and historic buildings and Regency Cheltenham and associated festivals are internationally important visitor destinations.

The use of traditional building materials across the area has been highly varied; local stone (red sandstone, grey Lias or Cotswold stone) intermixed with timber frame buildings sometimes retaining their thatch, and deep-red brick and pantile roofs. The grander houses at the base of the Cotswolds benefitted from the availability of local Cotswold stone. Modern developments tend to be in modern red brick or render with a mixture of slate, tile or pantile being used.

Broadcloth production (a major feature of Stroud valleys in the Cotswolds NCA) developed in the south of the area from the late 14th century. Stocking knitting developed at Tewkesbury, which also became a major corn milling centre from the medieval period. The building of the canal network during the 18th and 19th centuries, to transfer and export the goods produced in the area, simulated the growth of the Worcester porcelain pottery. The one time important dairy industry around Gloucester gave us double and single Gloucester cheeses. The Severn has long been a major salmon fishery and historically, sturgeon and lamprey were supplied to the Crown.



**A traditional Worcestershire plum orchard showing standing dead wood, an important resource for orchard biodiversity.**

During the 20th century there has been rapid urban expansion, particularly of the larger cities and towns. This has been mirrored by many villages becoming commuter settlements with new residential areas. Elm was once a highly characteristic hedgerow tree of the area and the loss of mature elm trees during the Dutch elm disease outbreak of the 1970s, has dramatically changed the landscape making it feel far more open.

Research showed that in the period 1990 to 1998, the landscape of the Severn and Avon Vales experienced a slight increase in small woodland planting, consistent with the character of the NCA, but there were changes in agriculture and development that were inconsistent with character. In the second assessment period from 1998 to 2003, it was noted that the woodland resource appeared to have strengthened, but changes in agriculture and the pressure of development continued to transform the area. Riverine, boundary and historic elements also showed signs of neglect.

The development of the motorways that cross the area and the two Severn bridges have increased access to this NCA and neighbouring Wales. The old Severn Bridge, now a grade 1 listed building, was a pioneering design of its time using aerofoil technology, which produces its characteristic slim profile. The flat landscape and access to the water of the Severn has provided opportunities for industrialisation particularly at Avonmouth. Riverside power stations and industrial and commercial activity at Avonmouth and along the tidal Severn to Gloucester and beyond, all create prominent landscape features.

## Ecosystem services

The following section seeks to identify the services offered by the landscape. A more expansive list of ecosystem services associated with this NCA are included in the Analysis section.

The Severn and Avon Vales 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 (under the constituent headings). Further information on ecosystem services provided in the Severn and Avon Vales NCA is contained in the 'Analysis' section of this document.

### Provisioning services (food, fibre and water supply)

- **Food provision:** The Severn and Avon Vales NCA supports a mixture of farming from predominantly grazing in the west, to intensive agriculture and market gardening on the heavy but fertile soils of the Lias clay landscape to the east. It is renowned for its orchards, soft fruit and asparagus production.
- **Water availability:** This NCA is characterised by two of the major rivers of lowland England; the Avon and the Severn. The River Severn provides public water supplies to six million people. There is 'no water available' for abstraction along the length of the River Severn and its tributaries, including the River Teme and the River Avon within this NCA. There are no major reservoirs in this NCA.
- **Genetic diversity:** This and the surrounding NCAs of the major fruit producing counties of Gloucestershire, Herefordshire and Worcestershire hold a wide range of local varieties of orchard fruit, cultivated over hundreds of years.



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

- **Regulating soil erosion:** Soil erosion is recognised as a concern particularly along the River Teme catchment with its steeper slopes.
- **Regulating water quality:** The majority of surface water in this NCA is of moderate or poor ecological quality. The Severn and Avon rivers are considered 'heavily modified'.
- **Regulating water flow (flooding):** Flooding is a significant problem in this NCA with two major rivers, which confluence at Tewkesbury. The catchment management plan proposes ways to increase the regulation of river flooding.
- **Pollination:** Pollination services are particularly important in this NCA due to the pollination requirements of orchards and the horticultural nature of farming in parts of the area.
- **Regulating coastal flooding and erosion:** The Severn estuary has the second largest tidal range in the world, at 10-12 m, and is tidal as far upstream as Gloucester. In Avonmouth and surrounds there are approximately 1,043 properties at risk from all sources of flooding, including fluvial, tidal and coastal. Most of the flooding here results from tide-locking.

## Cultural services (inspiration, education and wellbeing)

- **Sense of place/Inspiration:** Sense of place is provided by the rivers Severn and Avon and their floodplains, with ancient market towns and villages located on them, such as Worcester, Stratford, with its strong associations with Shakespeare, Tewkesbury and Gloucester with their characteristic black and white timber framed buildings. The Vale of Evesham and its association with horticulture including soft fruits and the wider coverage and strong cultural associations of traditional orchards are also an essential part of the character of the area.
- **Sense of history:** The area contains a wealth of visible built and natural historic and prehistoric features including some which are internationally renowned such as those associated with Shakespeare.
- **Recreation:** Recreation is supported by waterways, over 5,000 km of rights of way at a density of 2.41 km per km<sup>2</sup>, including the 11 km of the Cotswold Way and 1 km of Offa's Dyke National Trails, plus just under 2,000 ha of open access land.
- **Biodiversity:** There are nine internationally designated sites in the NCA. The area is particularly important in terms of the floodplain wetland and associated bird assemblages, lowland meadow and traditional orchards. Most of the woodland is semi-natural ancient woodland, and important invertebrate assemblages are supported by the veteran trees of parkland such as that in the Bredon Hill SAC.
- **Geodiversity:** There are rare inland salt deposits at Droitwich, as well as staircases of fossil bearing river terrace gravels and other fossil bearing exposures along the rivers and the limestones of the Cotswold outliers.

## Statements of Environmental Opportunity

**SEO 1: Protect and manage the landscape, heritage and biodiversity associated with the Severn Estuary, the river valleys and other hydrological features, planning for a landscape scale expansion of wetlands, inter-tidal habitats and unimproved grasslands along river floodplains through, restoration, expansion and re-linkage of existing remnant areas of semi-natural habitat.**

**For example, by:**

- Restoring the natural floodplain function, landscape and habitat diversity associated with the rivers Severn and Avon and their tributaries through the opportunities provided by managed realignment, and the management of agricultural drainage/land use, increasing flood water storage capacity and reducing surface water run-off and soil erosion.
- Ensuring that managed realignment sites on the Severn Estuary are managed to create new intertidal and saline habitats that will contribute to, maintain and enhance biodiversity, contribute to climate regulation and enhance local landscape character, improve sustainability of current management practices and reduce flooding of built-up areas.
- Appropriately managing, restoring and creating fen, freshwater and inter-tidal grazing marsh, reedbed and ditch features to create an extensive and interconnected habitat network of wetlands, benefiting BAP species such as true fox sedge and supporting the large numbers of wildfowl that utilise both the estuary and surrounding wetlands, while ensuring that heritage assets, such as ridge and furrow, are not damaged or destroyed during the restoration or creation of wetland habitats.
- Protecting river terraces, important for their archaeological and geological record, retaining the outstanding evidence base for historic and prehistoric settlement, glacial and fossil record.
- Maintaining restoring and creating areas of wetland habitat, including estuary saltmarshes, mudflats and grazing marsh for nationally important assemblages of breeding waders; flood meadows, “hams” pastures and fen and the contribution salt marsh provides to carbon sequestration.
- Managing peat soils so that they remain wet or are re-wetted to maintain important wetland biodiversity and sequester carbon.
- Managing standing water features dispersed across the NCA to maintain their significant biodiversity interest.
- Protecting the exceptionally rare surviving example of inland saltmarsh near Droitwich by managing this habitat to ensure its continuity.
- Maintaining and extending low-input permanent pasture, hedgerows and woodland across slopes near the River Teme to reduce soil erosion and impact on water quality.
- Reverting arable to permanent unimproved grassland, particularly adjoining or close to existing remnant areas of semi-natural habitat.
- Promoting and expanding, multi-functional quality green spaces and linear routes, integrated with wetland habitats for recreation, health and educational benefits.

**SEO 2: Seek to safeguard and enhance this area's distinctive patterns of field boundaries, ancient hedgerows, settlements, orchards, parkland, small woodlands, chases, commons and floodplain management with their strong links to past land use and settlement history, and for the benefits this will bring to soil erosion, soil quality and biodiversity.**

**For example, by:**

- Retaining, restoring, and managing appropriately, all hedges and especially those that defines enclosure of medieval strip farming where this is a strong landscape feature. This will enhance the landscape, retain historic field patterns and provide an important biodiversity resource and connectivity of particular importance across the arable areas. Good hedgerow management will also assist reduce soil erosion and protect soil quality.
- Protecting and restoring the dry stone walls characteristic of the Cotswolds particularly seen on the Cotswold outliers in this NCA.
- Managing open commons to retain and enhance their open character and biodiversity value.
- Managing ditches and rhines together with veteran willow pollards that line their boundaries.
- Within 'ancient woodland restoration areas' (identified by Forestry Commission woodland opportunity mapping) where ancient woodland comprises 3 per cent or more of the landscape, linking the smaller woodland fragments to secure and enhance them. For example Bredon Hill, Malvern Hills and the Forest of Feckenham.
- Protecting the integrity of floodplain grasslands together with embankments that are fundamental to their historic management and are important for present day flood management.
- Protecting ridge and furrow and other buried archaeology from damage by cultivation and enhance biodiversity by restoring permanent grassland.
- Protecting varied heritage assets including archaeological features such as iron-age hill forts, earthwork remains, ridge and furrow, Roman estate boundaries for example on Bredon Hill, and patterns of former medieval strip farming, and ensure access to and interpretation of these important historical features.
- Promoting, managing, restoring and enhancing designed parklands, deer parks, wood pasture, commons and traditional orchards with their associated biodiversity, local genetic varieties and, historic buildings, for example cider houses and associated cultural heritage, through local and community events creating new recreation and education resources.
- Retaining genetic diversity of orchard trees to allow adaptability to the effects of a changing climate.



**SEO 3: Reinforce the existing landscape structure as part of any identified growth of urban areas, hard infrastructure and other settlements ensuring quality green infrastructure is incorporated enhancing health, access, recreation, landscape, biodiversity and geodiversity.**

**For example, by:**

- Ensuring that extensions to settlements, such as residential developments considered around Worcester, Redditch, Gloucester, Cheltenham and Tewkesbury, and further industrial expansion at Avonmouth, are designed to ensure their visual and functional integration with the surrounding landscape and the existing urban edge. Key views to and from settlements should be retained.
- Providing access to quality greenspace through well designed green infrastructure which will benefit health and wellbeing and provide habitat increasing the permeability of the urban landscape to biodiversity.
- Ensuring any new hard infrastructure, such as new power stations or other industrial plants along the Severn, are designed to ensure visual and functional integration with the surrounding landscape.
- Ensuring that new developments provide biodiversity enhancement rather than just mitigation.
- Encouraging the creation of sustainable urban drainage systems, and surface water management plans that can create new wetland features close to urban areas and new development, tying in as part of a green infrastructure network.
- Conserving the area's richly varied traditional architecture and farmsteads, vernacular and historic buildings in Cotswold stone, timber framing and deep-red brick, encouraging the use of appropriate styles and use of locally distinctive materials. Ensuring that the repair, restoration or conversion of vernacular buildings is carried out with due regard to this historic interest using local and appropriate materials, styles and detailing.

**SEO 4: Protect geological exposures and maintain, restore and expand semi-natural habitats throughout the agricultural landscape, linking them together to create a coherent and resilient habitat network enabling ecosystems to adapt to climate change.**

**For example, by:**

- Carrying out geo-conservation work at important geological sites improving accessibility so that they are available for research and education and all the geodiversity features are visible.
- Working with landowners to ensure geological sites are appropriately managed and their condition is monitored.
- Ensuring that the management of geological sites is integrated into all aspects of conservation practices in the National Character Area.
- Protecting river terrace gravel sites which, due to their unconsolidated nature, are particularly vulnerable to erosion, commercial extraction and development.
- Protecting and restoring calcareous grassland habitat on the Cotswold outliers.

- Protecting veteran trees in parklands, particularly in the Bredon Hill SAC and Dixon Wood SAC, and ensure plans for continuity of old trees and dead-wood resources are made.
- Conserving violet click beetle populations associated with veteran trees, particularly at Bredon Hill SAC and Dixon Wood SAC, and which also support other important invertebrates, bats, birds and fungi.
- Promoting sustainable farming practices to create a farmed landscape, which is more permeable to the movement and supporting of species.
- Protecting and enhancing ancient woodland across the area.
- Targeted planting of new woodland, informed by strategies such as the Forestry Commission ancient woodland opportunity mapping, paying due regard to the ancient open character of the landscape in places such as the Vale of Evesham.
- Improving the management of traditional orchards and developing age structure to ensure continuity of habitat resource and reverse the dramatic loss of this habitat for species associated with traditional orchard trees. Connecting orchards with other wood habitat to create functional habitat networks.
- Protecting species-rich grasslands, manage, restore and create unimproved grassland and traditional orchard habitat to provide an interconnected grassland habitat network.
- Protecting and managing hedgerows, particularly those with substantial blackthorn presence and extending the network of hedges suitable for brown hairstreak butterflies.
- Protecting ancient woodlands scattered across the former chase and royal forest areas and aiming to incorporate them into interconnected habitat networks by buffering woodlands with unimproved grassland, traditional

orchard and possibly short rotation coppice. Ensuring that extant historic woodland boundaries are not masked by buffering or woodland extensions. Protecting existing populations of green hound's tongue.

- Retaining and managing wood pasture and parkland in former chase and royal forest areas, particularly focussing on continuity of veteran tree and dead-wood resources.
- Managing peat soils in the Gordano Valley and Walmore Common so their biodiversity value associated with wet meadow, reed bed and carr communities and carbon sequestration potential is fully realised.
- Protecting all heritage assets, in particular ridge and furrow and other earthwork features in permanent grasslands.
- Maintaining and improving the quality and expanding a network of integrated public green spaces and rights of way for biodiversity, geodiversity, recreation and health benefits.



**Pershore Abbey, a prominent ecclesiastical feature standing out in the flat vale landscape.**

## Additional opportunity

### **1. Enhance and manage the relationship between access to the natural environment and conservation of the landscape, biodiversity, geodiversity and historic qualities of this popular area.**

#### **For example, by:**

- Maintaining and enhancing the high level of public access through the dense network of rights of way and long distance routes, woodland and open access land with clear signposting and better interpretation to improve the quality of understanding and enjoyment of the distinctive landscape and natural environment.
- Developing multi-purpose routes that prevent undue erosion, characterised by good quality surfacing, gradients and signage that enable more people to enjoy the natural environment together.
- Providing more green infrastructure and route connectivity in areas close to where people live to improve access for all, sustainable transport options, and improve health and understanding of the natural environment.
- Improving access and facilities in selected areas, in particular to the rivers Severn and Avon for non-motorised recreational use that enables more people to engage in healthy activities in inspirational water environments.
- Managing sensitively and promoting the Cotswolds Way to national standards and also other long distance routes such as the Severn Way, to protect sensitive habitats, enhance tourism and ensure a high quality experience for all users.
- Providing interpretation of the many biodiversity and geodiversity features of the area to improve understanding and enjoyment of the distinctive landscape and natural environment.
- Ensuring interpretation of historic buildings and artefacts brings out their role in the development of landscape over time and continues to provide inspiration through sense of place and literary associations that the area provides.
- Enhancing the many recreational opportunities offered whilst minimising the pressures for tourism by ensuring sufficient infrastructure is in place, and managing visitor demand.