



Introduction

As part of Natural England's responsibilities as set out in the Natural Environment White Paper,¹ Biodiversity 2020² 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.

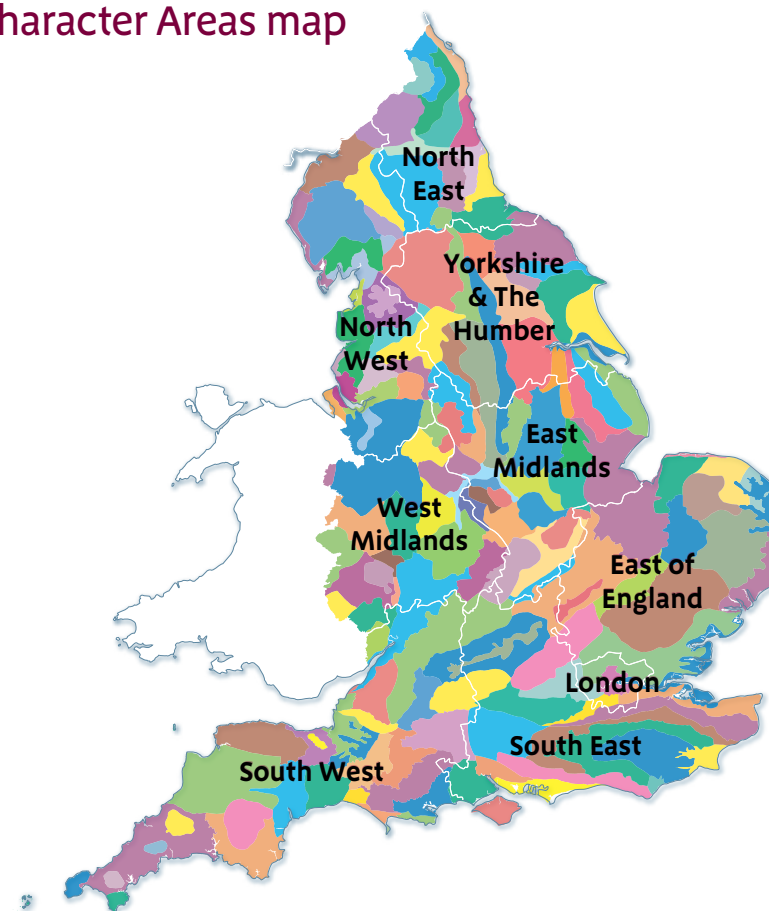
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and 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 Cotswolds form the best-known section of the predominantly oolitic Jurassic Limestone belt that stretches from the Dorset coast to Lincolnshire. The dominant pattern of the Cotswold landscape is of a steep scarp crowned by a high, open wold; the beginning of a long and rolling dip slope cut by a series of increasingly wooded valleys. The scarp provides a backdrop to the major settlements of Cheltenham, Gloucester, Stroud and Bath and provides expansive views across the Severn and Avon Vales to the west. Smaller towns and villages nestle at the scarp foot, in the valley bottoms and on the gentler valley sides at springlines. Scattered hamlets and isolated farmsteads are found on the higher ground. The limestone creates a strong sense of place and unity which carries through to the buildings and walls which have been built using local limestone for centuries. The distinctive character of the area is reflected in its designation as the Cotswolds Area of Outstanding Natural Beauty, with sixty five percent of the NCA being covered by this designation.

Nationally important beech woods feature in the landscape and are a notable feature on the scarp edge and in a number of the incised valleys. Mixed oak woodlands are concentrated on the upper slopes of valleys and on the flat high wold tops. Woodlands can contain a wide and notable range of calcicole shrubs and ground flora. Parkland and estates are characteristic of the area. Farming is mixed, with much of the high wold dominated by arable on thin, brashy soils prone to erosion. Pasture is predominant in the valleys, and in particular on steeper slopes and on more clayey soils. Meadows and tree-lined watercourses are found along the valley bottoms.

Important habitats include unimproved limestone grassland along the scarp, for example Rodborough Common Special Area of Conservation (SAC) and wet meadows with alder and willow and springline flushes. Two further SAC are also designated: Cotswold Beechwoods SAC and Bath and Bradford-on-Avon Bats SAC. Steeply-incised stream and river valleys cut through the north-west-facing scarp, flowing westwards towards the Severn. The watercourses of the dip slope provide the headwaters of the Thames and flow eastwards within broad shallow valleys, and these rivers and underlying aquifer are an important supply of high-quality water for populations within and around the area.

The area has a rich history, with nationally and internationally important evidence of prehistoric, Roman, medieval and later settlement in the form of archaeological sites, historic buildings and the wider historic landscape. Roman roads are prominent, including the Fosse Way which extends from north to south through the whole area.

It is a notable visitor destination and has a longstanding reputation as the 'quintessential English landscape'.

[Click map to enlarge; click again to reduce](#)

[Click map to enlarge; click again to reduce](#)

Statements of Environmental Opportunities:

- **SEO 1:** Protect and enhance the highly distinctive farmed landscape, retaining the balance between productive arable, pastoral and wooded elements and the open, expansive views particularly from the scarp, high wold and dip slope.
- **SEO 2:** Safeguard and conserve the historic environment, cultural heritage and geodiversity that illustrate the history, evolution, foundations, land use and settlement of the Cotswolds landscape, and enable access to and interpretation of the relationship between natural processes and human influences.
- **SEO 3:** Protect, maintain and expand the distinctive character of the Cotswolds and the network of semi-natural and arable habitats, including limestone grassland, beech woods and wetlands along streams and rivers, to enhance water quality, strengthen ecological and landscape connectivity, support rare species and allow for adaptation to changes in climate.
- **SEO 4:** Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; reduce flooding; and manage land to reduce soil erosion and water pollution and to retain and capture carbon.



Cotswolds field pattern seen at Longborough.

Description

Physical and functional links to other National Character Areas

The Cotswold scarp, rising to 330 m, provides long, expansive views westwards over the Severn and Avon Vales to the Forest of Dean and Wales, to the Malvern and Shropshire hills and the nearby outliers such as Bredon Hill. From the dip slope, long easterly views can still be seen across the Vale of the White Horse to the North Wessex Downs and the Chilterns. Unlike the scarp, the eastern side of the National Character Area (NCA) merges gently with the neighbouring NCAs. The scarp forms the backdrop to the Severn and Avon Vales and in particular the setting for Cheltenham, Gloucester, Stroud and Bath, a World Heritage Site (WHS).

Most of the principal rivers in the NCA are tributaries of the Thames and flow south-eastwards into the Upper Thames Clay Vales, providing strong ecological and functional links. Rivers in the south and west flow into the River Avon and then the Severn Estuary. The area is underlain by a limestone aquifer, and both this and the rivers are a key supply of high-quality water for this and the surrounding areas, including the Cotswold Water Park.

The Cotswolds provide drinking water for populations as far away as Birmingham and London, but also provide outdoor recreation and learning, and many other services. The Cotswolds are also internationally renowned and popular with overseas visitors and as a domestic short-break and day-trip destination. There is an extensive network of public rights of way, particularly

footpaths, including the start of the 184-mile Thames Path National Trail, the majority of the 102-mile Cotswold Way National Trail and parts of the National Cycle Network, which connect beyond the Cotswolds. The A46 and A429 run the length of the Cotswolds along the route of the former Roman road, the Fosse Way. The A41 follows the route of Akeman Street, another former Roman road, from east to west. These Roman roads connected Exeter to Lincoln and St Albans and Cirencester respectively. The M4 and A40 cross the area from east to west linking it to major cities and communities, as do the M40 in the north-east near Banbury and the Oxford to Worcester and London to Bristol, Bath and South Wales railway lines.

The Cotswolds area is famed for its building stone, used extensively within the NCA but also much further afield, for example in Oxford and London.



Limestone grassland at Swellshill.

Key characteristics

- Defined by its underlying geology: a dramatic limestone scarp rising above adjacent lowlands with steep combs, and outliers illustrating the slow erosion of escarpments. The limestone geology has formed the scarp and dip slope of the landscape, which in turn has influenced drainage, soils, vegetation, land use and settlement.
- Open and expansive scarp and high wold dipping gently to the south-east, dissected by river valleys.
- Arable farming dominates the high wold and dip slope while permanent pasture prevails on the steep slopes of the scarp and river valleys with pockets of internationally important limestone grassland.
- Drystone walls define the pattern of fields of the high wold and dip slope. On the deeper soils and river valleys, hedgerows form the main field boundaries.
- Ancient beech hangers line stretches of the upper slopes of the scarp, while oak/ash woodlands are characteristic of the river valleys. Regular blocks of coniferous and mixed plantations are scattered across the open high wold and dip slope.
- Large areas of common land, important for unimproved calcareous grassland, are characteristic of the scarp and high wold around the Stroud valleys and along the crest of the scarp to Cleeve Hill.
- The majority of the principal rivers flow south-eastwards forming the headwaters of the Thames with the exception of rivers in the west which flow into the River Avon and then the Severn Estuary.
- Rich history from Neolithic barrows, iron-age hill forts and Roman roads and villas to deserted medieval villages, grand country houses, cloth mills and Second World War airfields. The field patterns largely reflect both the medieval open field system, with fossilised areas of ridge and furrow, and later planned enclosures.
- Locally quarried limestone brings a harmony to the built environment of scattered villages and drystone walls, giving the area a strong sense of unity for which the Cotswolds are renowned. Bath stone is also famous and has been used for building since Roman times, both locally in the principal buildings and streets of Bath and more widely, for example for Buckingham Palace in London. Parkland, gardens and historic designed landscapes are features particularly of the dip slope and broad lowland, such as Lawrence Johnston's garden at Hidcote, and Heather Muir's garden at Kiftsgate, parkland at Stanway, Chastleton and Blenheim Palace.
- Prominent natural and built features in the landscape include the City of Bath WHS, Brailes Hill, Broadway Tower, Cleeve Hill, the Tyndale monument, Freezing Hill, Kelston Round Hill and Blenheim Palace WHS.

The Cotswolds today

The Cotswolds area extends from Mells in Somerset to Brackley in Northamptonshire. It is a distinctive landscape of national significance; 65 per cent of the area is designated as an Area of Outstanding Natural Beauty (AONB). The Cotswolds are part of the oolitic limestone outcrop that stretches from Dorset to Lincolnshire. The steep western scarp is the edge of the harder, more resistant limestone lying on top of predominantly softer mudstones which form the landscape to the west of the rolling high wold and the long, descending eastern dip slope. All this creates a rich and diverse landscape, unified by the underlying geology. A visual harmony is derived from the scale and simplicity of the landform and from the widespread use of the distinctive oolitic limestone as a building material.

The north-west-facing scarp slope is dissected by enclosed valleys and dominates the vales of Evesham, Gloucester and Berkeley. The crest of the scarp is punctuated by many notable features such as beech hangers and iron-age hill forts, and structures such as Broadway Tower and the Tyndale monument. Ancient woodlands are a key component of the landscape and often crown the upper slopes of the scarp and enclose the valley sides. The beech woods of the scarp are of particular importance for their nature conservation interest. Cotswold Beechwoods Special Area of Conservation (SAC) has been designated for its botanical interest and at 585 ha forms the core of a much larger woodland area. Pasture occupies the lower slopes and valley floors, often divided by overgrown hedgerows and fingers of woodland. Commons, such as Cleeve and Selsley, are found along the middle section of the scarp between Winchcombe and Dursley. Rodborough Common is designated an SAC for its semi-natural dry grasslands.

The unimproved grasslands contain nationally rare species, including pasqueflower and Cotswold pennycress, alongside typical calcicole species such as musk orchid, rock rose, bastard toadflax and thyme and associated butterflies such as the Duke of Burgundy butterfly and the chalkhill blue, Adonis blue, large blue and small blue butterflies.

The large-scale, open landscape of the high wold is characterised by expansive views and arable cultivation, intersected by limestone walls and hedgerows, particularly in the valleys and alongside quiet lanes. There are lush, narrow, sheltered valleys including dry valley systems which contrast with the wider high wold. Woodlands on the high wold are characteristically of small to moderate size and geometric, many comprising plantations, copses and shelterbelts. Only small hamlets and isolated farmsteads are found on this higher ground.

The lowlands of the eastern side include rivers, such as the Windrush and Evenlode, flowing eastwards in broad shallow valleys. These rivers provide the headwater tributaries of the Thames, many flowing through the Cotswold Water Park and contributing to its network of wetlands. Flood plain meadows, including remnant watermeadows, are found in this landscape. The rivers of the south and west of the area flow into the River Avon and then into the Severn Estuary.

Humans have long influenced the landscape. Visible ancient examples include Neolithic chambered tombs, as at Belas Knap, stone circles such as the Rollright Stones, and hill forts such as Sodbury Camp. Former Roman roads, in particular the Fosse Way and Akeman Street, cross and run the length of the Cotswolds, and there are well-preserved Roman villa sites at

North Leigh and Chedworth. Field patterns are influenced by the former medieval open field system overlain by subsequent piecemeal and planned enclosure which resulted in many of the drystone walls and hedgerows seen in the landscape today. Evidence of industry can be seen in the former cloth mills along the Stroud valleys, the canals, principally the Kennet and Avon canal, and railways – both disused and operational – which bisect the area. In addition to those archaeological monuments surviving as earthworks or structures, there are also many thousands of buried archaeological sites reflecting the intensity of past human use of this landscape.

A walk or ride through the arable landscape reveals the surprising richness of wildlife, particularly farmland birds such as skylark, yellowhammer and corn bunting, and arable plants including shepherd's needle. Many roadside verges are important for their grassland species including, in spring, white and cream of cow parsley, followed by the blue of meadow cranesbill, the purples of scabious and, around Bath, the rare Bath asparagus. The Bath and Bradford-on-Avon Bats SAC supports 15 per cent of the UK's greater horseshoe bat population along with Bechstein's bat and the lesser horseshoe bat. Woodchester Park is particularly notable for bats and historic designed landscape.

The local Cotswold stone is a unifying element of the landscape, used in buildings, drystone walls, cottages, grand houses and churches, all built in a locally distinctive style. The high quality of the domestic architecture is particularly notable, with steep roofs of graded limestone slates, parapeted gables with finials, stone mullions, rectangular dripstones and dormer windows, and four-centred arches over doorways. Refinement, simple elegance and quality pervade. The colour of the stone varies across the Cotswolds due to variation in the iron content, ranging from the brown ironstones of the north-east, through

to the grey, almost white stone of Northleach and Painswick, to the honey-coloured stone found in and around Bath.

The principal Cotswold towns and cities – Stroud, Cirencester and Bath – lie on the edge of the area. Bath is internationally known and designated as a WHS for its Roman and Georgian architecture. The scarp and dip slope landscape around Bath is less pronounced, breaking up into a series of hills and valleys often referred to as combes. The smaller market towns and villages tend to lie in the valley bottoms, occasionally along the valley sides and at the scarp foot on springlines. Stow-on-the-Wold is an exception as a hill top town. Settlement patterns vary from compact to dispersed and ribbon forms, with some lying round a central green. Away from these sheltered town and villages, which are usually never far from water, the higher ground is often sparsely populated, with only a few hamlets and isolated farmsteads. On the open, high wold and dip slope the oldest and most recent roads sweep across the landscape in almost straight lines; however, along the valleys the typical road is a winding lane linking villages. The combination of high-quality landscape, tranquillity and an excellent rights of way footpath network has made the Cotswolds a popular destination for quiet outdoor recreation.



The Cotswold escarpment at Stinchcombe, Gloucestershire.

The landscape through time

The whole area is underlain by the Lias Group, formed in a muddy sea, which is exposed in the valleys, except where there have been extensive landslips. The oolitic limestones were deposited between 100 and 170 million years ago when the area was under a clear warm tropical sea. Two types dominate: the Great and the Inferior Oolites. Both are prized building materials. The Inferior Oolite forms the scarp, while the younger Great Oolite forms most of the high wold and dip slope. The strata dip gently, with younger rocks found in the south-eastern extremities of the area, and Oxford Clay and Cornbrash found around the north-eastern edges. The geology is particularly important for the study of stratigraphy, or rock layers, and William Smith, the 'father of English geology', made some of his key observations of stratigraphy in the Cotswolds. The area is also important for palaeontology, the study of fossils and fossil environments, and the first scientifically described dinosaur fossils were discovered here at Stonesfield.

Virtually every settlement within the area has an associated, now nearly always disused, quarry. Thousands of delves – shallow pits from which stone has been taken for walls, infilling, slates, sheds and other small-scale operations – are found across the area, alongside larger worked quarries, some active for many years. Stone has remained an important building material and places like Taynton Limestone Quarry near Burford are listed in Domesday Book; the last extraction of stone took place in 1939. Stone from Taynton was used by Sir Christopher Wren in London for churches and St Paul's Cathedral.

There is evidence of over 6,000 years of human occupation and land use. Although Mesolithic remains have been found, archaeological evidence suggests that the large-scale clearance of the lime-dominated woodland and settlement

did not begin until the Neolithic. Visible remains can still be found from this period in the form of causewayed enclosures and long barrows such as at Belas Knap. Other notable features of the prehistoric period include bronze-age stone circles or henges, such as the Rollright Stones near Chipping Norton, and iron-age hill forts, with 17 strategically located along the crest of the scarp.

Roman influences are prominent in the landscape; Roman roads, settlements and the remains of villas can be found throughout the area. Cotswold stone has been used for construction since at least the Neolithic, but it was the Romans who developed the materials for buildings, both for the grand civic centres of Bath, Gloucester and Cirencester and for villas, villages and town houses. Roman roads have had a lasting influence on the area, and of particular note is the Fosse Way which runs the full length of the Cotswolds. The Romans are thought to have introduced the long wool breed of sheep which was the ancestor of the Cotswold sheep, commonly known as the Cotswold Lion.

Saxon settlement saw the establishment of much of the human infrastructure of the area; most place names in the Cotswolds are of Saxon origin. W.G. Hoskins considered 'the landscape of the Cotswold uplands ... was even in Saxon times much as we know it today'. The presence of water was an important factor, and many villages were established along the springlines on both scarp and dip slopes. The principal land uses have long been agriculture, particularly sheep grazing. In the north-east, where the soil was overlain with poor-draining clay, woodland cover was preserved as the royal hunting forest of Wychwood near Charlbury.

Reference to Domesday Survey of 1086 shows that many present-day villages were already in existence at that time, surrounded by very large

open fields subdivided into strips. Much of the land was owned by extensive ecclesiastical and feudal estates, some of these based outside the Cotswolds. There were few large woods in the Cotswolds except those clinging to the steep uncultivated slopes along the escarpment and within valleys. Irregular and species-rich hedgerows along the slopes, and often well-preserved ridge and furrow patterns, are evidence of the clearing of land for agriculture (often promoted by these landowners). Market centres such as Stow, Moreton-in-Marsh, Chipping Campden and Northleach developed in the same period, many being planned as new settlements. Some settlements developed around areas of common land.

Population decline, beginning in the mid-14th century and resulting from climate change, poor harvests and plague (including the Black Death of 1348), precipitated significant change in the Cotswolds. Sheep farming became a major occupation, especially on the established ecclesiastical estates, and wool and cloth production became a mainstay. Wool market towns such as Stow-on-the-Wold and the medieval planned towns of Northleach and Chipping Campden grew and prospered on the back of the wealth generated by the wool trade. One of the longest worked groups of medieval quarries came from this period of growth and stretched from Painswick to Nailsworth to meet the need for building stone for the rapid growth in market towns. Cloth was mechanically finished in fulling mills powered by the fast-flowing streams in the area and new mills were established at Wickwar, Dursley, Wotton-under-Edge and Stroud, also generating growth and prosperity.

After the Dissolution of the Monasteries and on the back of the wealth generated by wool production, many fine country houses and parks were established including Blenheim Palace, now a WHS, Compton Wynyates,

Sherborne Park, Dyrham Park, Badminton and Cirencester Park. This wealth also contributed to the development of a distinct architectural tradition within settlements and across the rural landscape. The 16th-century expansion of wool production led to enclosure across the Cotswolds to create sheepwalks and folding, a process which often went hand-in-hand with the shrinkage of settlements and the establishment of fine houses with small estates.

Further enclosure of farmland and downland for cropping and pasture followed, mostly on a piecemeal basis, in tandem with the creation of new farmsteads and the building of large barns but principally driven by Parliamentary enclosure in the late 18th century and early 19th century (concentrated in the central and eastern wolds). Thousands of miles of



Mumfords Vineyard near Bath.

drystone walls and hedgerows appeared in the landscape along with avenues, shelterbelts, plantations and turnpike roads. The newly enclosed fields became famous for the quality of their barley, used for malting and livestock feed. Dairy farming and cheese-making also rose in prominence, although wool production remained important.

Mixed fortunes shaped the Cotswolds until the Second World War. The cloth industry expanded from the 17th to 19th centuries in the valleys around Dursley, Stroud, Chalford and Painswick. Taking advantage of local water power and deposits of fuller's earth, large multi-storey stone mill buildings were erected to card, spin, weave and finish the cloth, such as Bliss Mill at Chipping Norton. Communities expanded with modest terraced houses for workers built along hillsides, while mill owners erected fashionable grand houses.

By 1850 the wool industry was in decline as the Industrial and Agricultural Revolutions shifted competitive advantage to other parts of the country, and increasingly to mills in the north of England. The area also saw lower levels of investment in agriculture than did other chalk and limestone areas of England. In the late 19th century, leading figures in the Arts and Crafts Movement were attracted to the Cotswolds: William Morris purchased Kelmscott Manor in Oxfordshire and C.R. Ashbee established the Guild of Handicrafts in Chipping Campden. The Arts and Crafts Movement left its most profound mark on the landscape in the restoration of the area's churches and in its distinct 'Cotswold style' of domestic architecture which inspired new buildings by national figures such as Detmar Blow and Guy Dawber and also fostered local talent such as Ernest Gimson and Norman Jewson. By the 1930s, places such as Bourton-on-the-Water had become popular with tourists, bringing much needed income, while a heightened

awareness of the beauty of the area shaped new developments, such as the facing in local stone of the RAF bases of Hullavington and Little Rissington.

During the Second World War, the area was strategically important. Many wartime airfields were created by clearing the landscape of nearly all natural and manmade features; while some, like Kemble, remain in use, many more have been given back to farming, though they are still evident in the form of very large, featureless fields. After the war farms prospered anew as home-produced meat and cereals were in demand and new techniques and heavy mechanisation meant that profitable farming once again became possible. This brought more changes to the landscape with the construction of large agricultural sheds to house machinery, the widening of field entrances and the removal of field boundaries. Mechanised road traffic and improvements to the road network opened up the area to tourism and commuting. The M5 running parallel to the scarp, the M4 cutting across the southern part of the area, and the M40 touching the north-eastern edge of the NCA, provided fast links to London, Bristol, Birmingham and the West Midlands.

Early in the 20th century J.B. Priestley identified this area as one that 'needed protection for the good of future generations'. Its value was recognised more formally in the wartime and post-war reports on landscape protection. In 1966 part of the area was designated as an AONB, and this was extended in 1990 to cover 65 per cent of the NCA. With such a large area of the NCA designated as a protected landscape there has been relatively little change in the last decade. The name 'Cotswolds' is a recognisable brand nationally and internationally as representing the quintessential English landscape. This reputation is leading to visitor pressure in some places such as Bourton-on-the-Water and Castle Coombe.

Ecosystem services

The Cotswolds 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 service are summarised below. Further information on ecosystem services provided in the Cotswolds NCA is contained in the 'Analysis' section of this document.

The complexity of interactions across these ecosystem services and across adjoining character areas means that the summary provided here requires further refinement and analysis of evidence at a more local scale.⁴

Provisioning services (food, fibre and water supply)

- **Food provision:** The principal agricultural production for this NCA remains arable cropping and sheep rearing, although dairy, beef and poultry all form a part of the mix, alongside horticulture in the north of the area. Mixed farming is predominant, although an increase in farm size and a move towards less mixed farming and more arable cultivation are growing trends.
- **Water availability:** This NCA provides a key catchment for good quality drinking water for populations within this area and large conurbations in neighbouring NCAs. The large limestone aquifer which underlies the area is of strategic importance for this water supply. Hotter, drier summers

⁴ The evidence, sources and analysis for these summaries can be found in the supporting document 'Analysis supporting statements of environmental opportunity'. Where there are currently gaps in data, these will be addressed through further evidence gathering as part of this work.

affect flow in limestone rivers and many of the rivers and parts of the aquifer are classified as having no more water available for abstraction. Rivers, particularly those which flow south and eastwards are strategically important as the headwaters of the Thames. It is essential to manage abstraction to ensure that water remains available further downstream.

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

- **Regulating soil erosion:** The main soils of this area are free draining, base rich and relatively shallow. When these are protected by semi-natural habitats such as limestone grassland, or managed through good soil husbandry, erosion rates can be low. However, when exposed or when vegetation cover is lost, they can be highly prone to erosion, compaction and wind blow, which can have an adverse effect on many other services.
- **Regulating soil quality:** Historically, soils in this area provided good conditions for sheep grazing on the limestone grassland. More recently there has been an increase in arable cropping, taking advantage of the good quality soil. This can leave soils prone to thinning, compaction and nutrient run-off, especially from the application of artificial fertiliser which can, over time, reduce the value of this service. Sedimentation can damage salmonid fisheries and increase the maintenance of drainage features.
- **Regulating water quality:** The area is important as a source of good quality drinking water for populations in the Cotswolds and in neighbouring areas with larger population centres downstream such as Oxford. This water is abstracted from a strategically important underlying limestone aquifer and from the area's principal rivers, particularly those

which run south and eastwards forming the headwaters of the Thames. The majority of the rivers in the NCA are classed as having good chemical and ecological quality, except for the upper Evenlode, mid Windrush, the rivers Coln and Glyme and the Ampney Brook. Some smaller tributaries of the Thames in the south of the catchment also have problems associated with diffuse pollution. Around half of the area's groundwater is classed as being of poor quality, particularly in the north and west, due to pollutant inputs. Nitrate and pesticide pollutants are of particular concern for aquifer waters, and phosphates are high in some rivers, reducing not just water quality but biodiversity and fisheries interest.

- **Regulating water flow:** In general this is not an area of high flood risk, although there are areas susceptible to localised flooding. Limestone forms the parent material within the majority of catchments, allowing precipitation to infiltrate to the groundwater, from where it can be released at a slower rate back into rivers, helping to mitigate flood risk but sometimes leading to low flows. Areas to the north-east around Banbury and to the north of Bath are susceptible to localised flooding. During periods of heavy rain – such as in July 2007 – rivers which supply the headwaters of the Thames can cause flooding of communities along the valleys and further downstream in the Thames catchment. Water company groundwater abstractions for drinking water supply can affect spring flows and reduce river levels in this area. To mitigate this, water abstracted from aquifers deep underground is discharged into the rivers to increase flow.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** Sense of place is especially strong in the Cotswolds NCA with a unifying harmony provided by the use of local limestone in buildings and drystone walls. It is an area of biodiversity value in the form of beech woods and limestone grassland. The dramatic scarp slope fretted by valleys provides panoramic views and a sense of inspiration and openness. The rural nature of the Cotswolds has strong associations with the Arts and Crafts Movement and the area is often thought of as the quintessential English landscape, drawing and inspiring many thousands of visitors each year.



Workman's Wood, Cotswold Commons and Beechwoods NNR.

- **Sense of history:** The area has a rich history with clearly visible evidence of human occupation, from Neolithic long barrows, bronze-age henges, iron-age hill forts, Roman towns (Bath and Cirencester), villas and roads, to impressive 17th- and 18th-century estates and parklands (for example, Blenheim Palace), and a legacy of industrial archaeology, with wool mills (such as at Chipping Norton) and canals. Field and road patterns and quarrying all sit alongside this visible record to reveal a long history of land use and settlement.
- **Tranquillity:** The area has long been associated with a sense of rural peace, particularly in the undeveloped valleys, along the scarp and within woodlands and parklands. The expansion of some urban centres and the road network are eroding this tranquillity in places, reducing the level of this service.
- **Recreation:** There is an extensive network of public rights of way especially for those on foot, combined with open access, with the start of the 184-mile Thames Path National Trail, the majority of the Cotswold Way National Trail and parts of the National Cycle Network. The network is less comprehensive for other users such as horse riders. There are many popular visitor destinations, especially some of the villages such as Bourton-on-the-Water and Stow-on-the-Wold and Roman remains around Cirencester, while the City of Bath is a world-renowned destination. There are two National Nature Reserves (NNRs) within the NCA: Cotswold Commons and Beechwoods NNR and Wychwood NNR – both important for nature conservation. The former is also important as an educational and recreational resource.
- **Biodiversity:** The Cotswolds has a rich biodiversity and is particularly important for its internationally renowned beech wood hangers, and nationally important limestone grassland and associated species such as the Duke of Burgundy butterfly, the large blue butterfly and many farmland birds. It is also important for species such as greater horseshoe bat, holding 15 per cent of the UK's population. The network of habitats, in particular beech hangers and limestone grassland, along the scarp edge are a good foundation for an ecological network running north to south. The rivers that run west to east, including the Evenlode, Windrush and Coln, and their associated habitats also serve as an important ecological network. Both networks could be enhanced to increase their biological value and to aid biodiversity in adapting to changes in climate.
- **Geodiversity:** Geology is a unifying theme across the NCA, providing much of its character and interest. The use of local stone in buildings and stone walls gives a visual harmony to the built environment. Quarrying remains important, particularly for the supply of stone for local use to maintain the character of new developments and for the repair and maintenance of older, notable buildings and structures. The wealth of opportunity for the study of geology and geomorphology, and in particular stratigraphy, fossils and the history of geology, also makes this an important educational service. And the resultant soils significantly influence agriculture, land use and water resources.

Statements of Environmental Opportunity

SEO 1: Protect and enhance the highly distinctive farmed landscape, retaining the balance between productive arable, pastoral and wooded elements and the open, expansive views particularly from the scarp, high wold and dip slope.

For example, by:

- Protecting the contrasts in character between scarp, high wold and dip slope by using their defining characteristics to inform new development, woodland creation initiatives and land management, particularly through the use of agri-environment schemes.
- Identifying key views into and out of the Cotswolds, particularly along the scarp and main settlements such as Stroud, Bath, Cheltenham and Gloucester. Using this to mitigate development in or around these key views which could otherwise be intrusive and increase disturbance. Where new development is appropriate, ensuring that it is integrated into and informed by the existing high quality and distinctive landscapes, increasing the area and networks of semi-natural habitats and avoiding light pollution in areas below the scarp.
- Assisting the maintenance of distinctive farming patterns across the area, in particular grazing, such as with the Cotswold Lion sheep.
- Managing and restoring the nationally important parklands, estate landscapes and ancient orchards, highly characteristic of the south-eastern dip slope, that support a wealth of biodiversity, genetic diversity and pollinating invertebrates, especially where these are vulnerable to changes in agricultural practices.
- Maintaining, enhancing and restoring drystone walls, and the skills to do this, and the resulting field patterns of land use on the high wold, reinforcing a clear sense of place and history and retaining these important landscape features that also provide a rich wildlife habitat.
- Maintaining and reinstating hedgerow management, including laying and coppicing existing hedgerows, and new hedgerow tree planting where appropriate on the dip slope and scarp, to retain these important landscape features for the future and safeguard their role in supporting the biodiversity of the area; assisting in the reduction of soil erosion by slowing cross-land movement of soils, nutrients and water (encouraging coppice residues to be used as a source of low-carbon fuel).

SEO 2: Safeguard and conserve the historic environment, cultural heritage and geodiversity that illustrate the history, evolution, foundations, land use and settlement of the Cotswolds landscape, and allow access to and interpretation of the relationship between natural processes and human influences.

For example, by:

- Encouraging arable reversion to grassland and sensitive scrub removal where current land cover and use threaten the integrity of important earthworks and remains, both buried and visible, including Neolithic long barrows and henge monuments, bronze-age round barrows on the high wolds, prominent hill forts on the scarp ridgeline, extensive Roman remains, including villas in the lower valleys, medieval settlements and field systems.
- Maintaining the nucleated settlement pattern of small towns and villages in valleys and at the foot of the scarp along the springline, further characterised by fine churches, country houses and estate villages. Ensuring that the wealth of heritage assets, including above ground and buried archaeological features such as iron-age hill forts, earthwork remains, ridge and furrow patterns, Roman remains, abandoned villages, mills and parks and traditional stone farm buildings found across the area, are protected from inappropriate and damaging activities, and are effectively and traditionally managed where necessary.
- Conserving and interpreting archaeological earthworks and sub-surface archaeology, while recognising the potential for undiscovered remains.
- Using an understanding of the area's traditional and historical architecture, and its distinct patterns of settlement, to inform the appropriate conservation of historical buildings, and to plan for and inspire any environmentally beneficial new development which makes a positive contribution to local character.
- Restoring and conserving the medieval field patterns, the open commons and piecemeal enclosures strips on the scarp, the large rectilinear fields of the wolds and the smaller enclosed pastoral fields of the valleys and dip slope. Particular attention should be given to the protection and management of the nationally important ridge and furrow patterns (for example at Todenham, Chastleton, Weston-sub-Edge and Tysoe), maintaining a sense of history and reinforcing the open vistas and panoramas that give this landscape its distinctive character.
- Maintaining and reinstating management of small woodlands, windbreaks and copses to retain these 19th-century features as an important part of the landscape, seeking opportunities to complement this pattern with new planting, where appropriate, for the benefits this will bring for water regulation, carbon capture and storage, biodiversity and landscape character.
- Conserving and managing historic parklands to retain their important contribution to landscape character, including establishing new generations of trees, appropriate management of ancient and veteran trees and retention of deadwood fauna and flora.
- Promoting access to the natural environment across the area; making the most of natural, historical, inspirational and tranquil places available to all, particularly incorporating sustainable multi-user access to and from the Cotswold Way National Trail and other routes such as the Thames Path.

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SE02 continued

- Managing and enhancing nationally important and locally characteristic oolitic limestone exposures important for the study and understanding of stratigraphy and palaeontology, especially those created by past quarrying and railway cuttings, and improving access and interpretation where possible.
- Encouraging the continued use of local stone as a building material in existing and new drystone wall field boundaries, new developments and conservation projects to further conserve and enhance the scenic beauty of the area and to provide a rich habitat for a range of wildlife.
- Maintaining the diversity of geology and traditional buildings that contributes to the National Character Area (NCA) by using, promoting and encouraging locally-sourced materials and skills for walling and building repair and construction.
- Ensuring sensitive siting of quarries and consideration of the reopening of delves for the supply of local building stone where appropriate and where this would have a minimal impact on landscape, biodiversity and tranquillity.
- Conserving, managing and enhancing the nationally and locally important geological and geomorphological sites and features which represent the characteristic Jurassic Limestone sequences of the area, many of which are exposures in disused quarries and railway cuttings.
- Seeking to ensure that this resource is available as an accessible scientific and educational resource to study stratigraphy, palaeontology and the relationship between geology, landscape, mineral extraction, industrial history and building stone.



Belas Knapp, a particularly fine example of a Neolithic long barrow.

SEO 3: Protect, maintain and expand the distinctive character of the Cotswolds and the network of semi-natural and arable habitats, including limestone grassland, beech woods and wetlands along streams and rivers, to enhance water quality, strengthen ecological and landscape connectivity, support rare species and allow for adaptation to changes in climate.

For example, by:

- Protecting species-rich grasslands in favourable condition through extensive grazing, restoring limestone grassland and unimproved pastures across the whole area, and seeking opportunities to expand and buffer the network. Also by providing stepping stones along scarp and river corridors to enhance interconnected grassland habitat networks important for species such as Adonis blue, chalkhill blue and large blue butterflies and bringing additional benefits for soil management and water quality.
- Promoting sustainable farming practices to create a farmed landscape which is more permeable and able to provide for the movement and support of species.
- Protecting and enhancing and seeking to re-introduce sustainable management of ancient woodland across the area and in particular the hanging beech woods associated with the scarp, such as the Cotswold Beechwoods Special Area of Conservation (SAC), aiming to incorporate these into a wider habitat network by looking for opportunities to create a mosaic of habitats with limestone grassland, as well as scrub and field margins, that will help to protect populations of species such as the Duke of Burgundy butterfly.
- Targeted planting of woodland buffers to existing woodland or new woodland copses, and regenerating and restoring existing woodland, informed by strategies such as the Forestry Commission's ancient woodland opportunity mapping and the Cotswolds Area of Outstanding Natural Beauty (AONB) tree planting guidelines, paying due attention to the open character of the landscape in places such as the high wold and the opportunities presented by valleys and river networks. Seeking opportunities to link woodland with other habitats such as parkland to create functional networks.
- Managing springline habitats, fens, wet flushes, winterbornes and wet meadows such as Middle Barton Fen and the river systems and associated flood plains on the dip slope so that associated biodiversity value, water quality and quantity benefit and carbon capture and storage potential are fully realised.
- Promoting the conservation of farmland birds and arable weeds; ensuring that a network of corridors is provided for the movement of species across farmland; retaining the cultural value of flocking and singing birds.
- 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.
- Seeking and realising opportunities to reinstate hedgerows, and hedgerow trees, where they have been lost, especially for the benefit of species such as bats in the Bath and Bradford-on-Avon Bats SAC, butterflies and other invertebrates and farmland birds, and to enhance landscape character.

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SE02 continued

- Ensuring the reversion of significant areas of arable land on the high wolds, guiding locations according to opportunities to assist biodiversity adaptation to changes in climate; improvements in groundwater quality, and in particular nitrate and phosphate issues; aquifer recharge; and managing grasslands in favourable condition through extensive grazing.
- Managing and restoration of ancient semi-natural beech woodland and small mixed oak woodlands on the scarp and valley slopes and dip slope, exploring coppicing and pollarding as means of increasing management and resilience to changes in climate; expanding and re-linking woodland in selected locations, particularly on scarp and dip slope, to increase the resilience of this habitat to changes in climate and assist in controlling cross-land flows of water and also controlling soil erosion and nutrient leaching.
- Maintaining the intricate rural road network characterised by semi-natural grassland verges and ensuring that verges are sympathetically managed for their biodiversity value.



River Churn at Rendcomb, Gloucestershire.

SEO 4: Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to maintain water quality and supply; reduce flooding; and manage land to reduce soil erosion and water pollution and to retain and capture carbon.

For example, by:

- Continuing to support farming at a sustainable level with grazing and cropping levels that provide food, lead to improved soil quality, reduce soil erosion, benefit biodiversity and reinforce a sense of place and current patterns of land use.
- Increasing the amount of farmland managed under principles established by the Catchment Sensitive Farming programme and the Farmland Bird Initiative and the associated benefits this will bring for water flow management and regulation, water quality, prevention of soil erosion and increased biodiversity.
- Maintaining and restoring hedgerow boundaries characteristic of the valleys and scarp and associated field patterns, especially where these help control cross-land flows, prevent soil erosion and nutrient leaching.
- Creating woodland in appropriate locations to help reduce the impact of flooding and for the benefit of water quality.
- Restoring and enhancing remnant wetland habitats, including springline marsh at the foot of the scarp and rare patches of valley mire and fen meadow in the valley bottoms, for the benefit of flood storage, water quality, landscape diversity and biodiversity.
- Creating grassland buffer strips verges running across slopes to provide a buffer to soil erosion and nutrient run-off in areas of arable production, including the catchments of the River Windrush in the north and the Avon in the south.
- Continuing opportunity to plan for the creation or extension of new broadleaved woodland and grassland habitat mosaics to provide the landscape setting to the main settlements on the periphery of the NCA (Cheltenham, Cirencester, Gloucester, Stroud, Banbury and Bath) to provide robust attractive new landscapes strengthening the ecological network throughout this NCA and adjacent NCAs.
- Enabling the recommendations of relevant implementation measures under the Water Framework Directive and Catchment Flood Management Plans.



The River Windrush, which flows south-eastwards with the other principle rivers of the area to form the headwaters of the Thames.

Additional opportunities

1. Manage the recreational and tourism opportunities to enhance enjoyment and understanding of the landscape's inspirational, diverse, open, tranquil and 'rural' qualities.

For example by:

- Maintaining and improving multi-user paths and connectivity between settlements, both within and connecting with those outside the area; the scarp, wooded valleys, parklands and other assets utilising and extending the existing network of public rights of way including links to and from the Cotswold Way National Trail.
 - Developing new permissive access to historical sites and other areas of interest as part of a cohesive network of inspiring access provision.
 - Promoting sustainable tourism initiatives that target a broad range of visitors and reduce car dependency, accommodating high visitor numbers while conserving the landscape and its inherent tranquillity.
 - Developing multi-user routes and improved route connectivity characterised by good quality surfacing and signage and providing sustainable transport options wherever possible to enable more people of varying abilities to enjoy the natural environment.
 - Maintaining the Cotswold Way and Thames Path National Trails and their corridors to the highest standards of management and visitor experience to provide the focus for both environmental connectivity and a corridor of interest of cultural, historic and environmental significance.
 - Developing improved interpretation of the rich cultural heritage associated with Cotswold authors, artists and designers who have been inspired by the Cotswold landscape.
- Supporting the role of the Cotswolds Conservation Board's activities to improve wider partnership in delivery and management across the AONB and the NCA, such as improving access, signage and interpretation to ensure a high-quality visitor experience.



Walkers enjoying the network of footpaths.

2. Plan for the creation of new landscapes around settlements on the periphery of the area and in appropriate development within the area.

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

For example by:

- Planting new woodland, using native broadleaved species, between and within new developments to filter views and preserve the tranquillity of the area.
- Promoting the use of sustainable building design and construction, using traditional materials and styles wherever possible, incorporating renewable energy generation and water recycling technologies.
- Exploring the role of short rotation coppice and other biomass crops within the framework of new development; keeping fuel sources close to demand.
- Creating reedbeds as part of developments to filter potentially polluted water before it is discharged to rivers.
- Providing access opportunities and natural open spaces close to where people live linked to wider multi-modal routes.
- Including school and community food gardens and orchards within the landscape framework and new developments, promoting the use of local Cotswold varieties such as Blenheim Orange apples.
- Ensuring that extensions to settlements, such as residential developments under consideration around Bath, Cirencester, Gloucester, Cheltenham and Banbury, 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 green space through well-designed green infrastructure which will benefit health and wellbeing and provide habitat that increases the permeability of the urban landscape to biodiversity.
- Ensuring that new developments provide biodiversity enhancement rather than just mitigation.
- Creating sustainable urban drainage systems and surface water management plans that can create new wetland features close to urban areas and new development, becoming part of a green infrastructure network.
- Conserving the area's richly varied traditional architecture and farmsteads, vernacular and historical buildings in Cotswold stone, timber framing and deep-red brick, encouraging the use of appropriate styles and locally distinctive materials, ensuring that the repair, restoration and/or conversion of vernacular buildings are carried out with due regard to this historical interest using local and appropriate materials, styles and detailing.