National Character Area profile:

98. Clun and North West Herefordshire Hills

Supporting documents

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Introduction

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

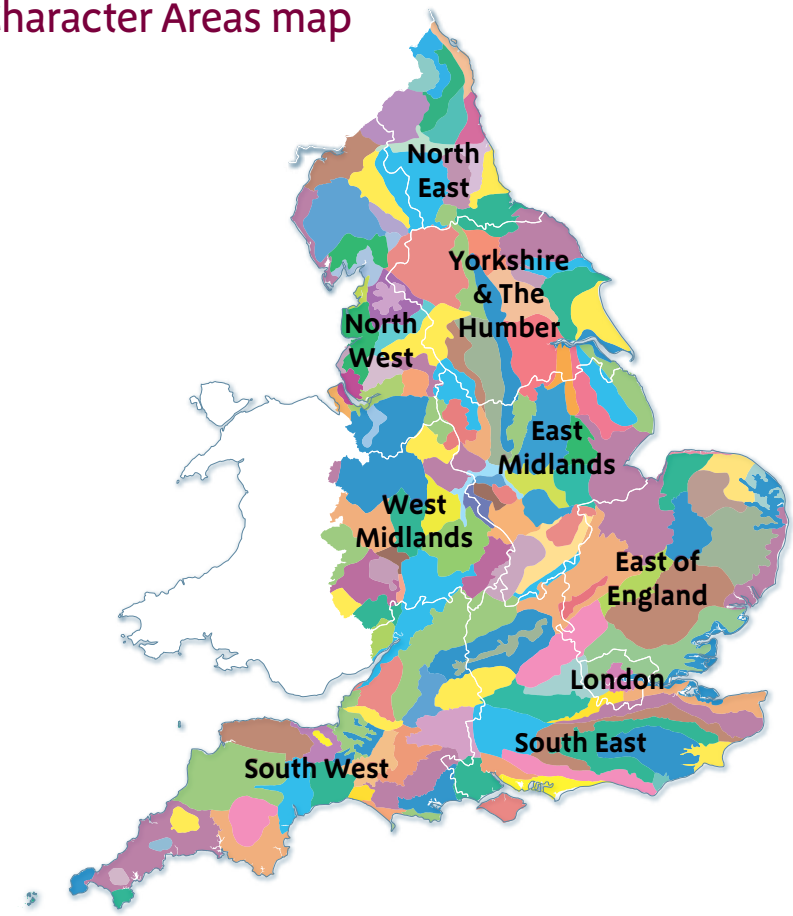
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and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

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

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

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

National Character Areas map



[1] The Natural Choice: Securing the Value of Nature, Defra (2011; URL: **www.official-documents.gov.uk/document/cm80/8082/8082.pdf**)
[2] Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, Defra (2011; URL: **www.defra.gov.uk/publications/files/pb13583-biodiversity-strategy-2020-111111.pdf**)
[3] European Landscape Convention, Council of Europe (2000; **URL: http://conventions.coe.int/Treaty/en/Treaties/Html/176.htm**)

Summary

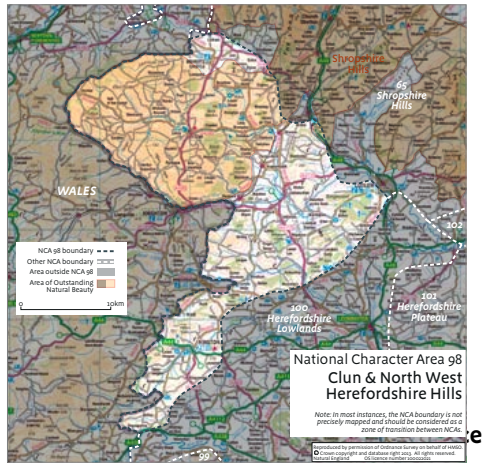
Clun and North West Herefordshire Hills National Character Area (NCA) is an undulating, tranquil, rural and sparsely populated area, divided by the river valleys of the Clun and Teme. The higher land is typically wind-swept heath and grassland bordered by areas of small-scale, irregular enclosure and slopes down to the Herefordshire Lowlands NCA to the south-east, typically with plantation and native woodland on the hill tops and upper valley slopes.

The heads of the valleys are narrow and deeply incised, with woodland on the steepest slopes. Downton Gorge National Nature Reserve is one of the most ecologically important of these valleys, and has also been designated a Special Area of Conservation (SAC). It is a ravine forest of small-leaved and large-leaved lime, together with ash and elm, and is considered to be one of the best examples of its type in the UK.

This area is of importance for its fast-flowing rivers. The River Teme is designated a Site of Special Scientific Interest (SSSI) for its important flora, fish and invertebrate fauna, including priority species such as twaite shad, sea lamprey, Atlantic salmon, otter and white-clawed freshwater crayfish. The River Clun SAC forms part of the River Teme SSSI and it is designated for freshwater pearl mussel – supporting one of the last populations in England and Wales. The River Lugg, designated an SSSI for its important flora and invertebrate fauna, notably its populations of white-clawed freshwater crayfish and otter, flows into the River Wye. Downstream the rivers widen to significant flood plains around the Teme and its tributaries, for example, the Wigmore basin.

In the centre of the area are the steep-sided, shallow-domed hills of Clun Forest. On the western border, high moorland sweeps westwards into Powys. This wild, open countryside changes east of Llanfair Hill and the landscape becomes more domesticated. Panoramic views emphasise the area's plateau origin, with long views down narrow, twisting valleys widening eastwards, the landscape flowing almost seamlessly into the Shropshire Hills. The Shropshire Hills Area of Outstanding Natural Beauty (AONB) encompasses a significant proportion of the northern part of the area, mirroring the NCA boundary and running across significant sections of the neighbouring Shropshire Hills NCA.

The area holds a large number of historic environment interests, including the 8th-century Offa's Dyke. The Offa's Dyke National Trail traverses 32 km of the NCA. With a number of other long-distance paths and extensive rights of way, the area has significant recreation assets.



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Statements of Environmental Opportunities:

- **SEO 1:** Protect, manage and enhance the open, expansive upland habitats of the Clun to ensure that they are healthy and contiguous, contributing to landscape character, protecting the important species, improving the soil and water resources that they support, and contributing to the tranquillity and recreation opportunities in the area.

- **SEO 2:** Protect, manage and enhance the valleys, to improve the habitat mosaic of semi-natural grasslands, meadows, woodlands, hedgerows and riparian habitats within the mosaic of improved pasture to enhance ecological networks, strengthen the distinctive landscape character and contribute to the delivery of ecosystem services such as food provision, wood supply, soil protection and improving water quality.

- **SEO 3:** Protect and manage the rivers Teme, Clun and Lugg and associated watercourses, along with their flood plains, wetlands and woodlands, to maintain high water quality and enhance their nature conservation interest, to strengthen their contribution to landscape character, to help reduce the potential risk of flooding both within the NCA and downstream, and to increase the recreational opportunities they provide for public enjoyment.

- **SEO 4:** Conserve and enhance the area's distinctive historic environment, cultural heritage and nationally important geological sites, demonstrating how the interaction of natural and historic factors has influenced the distinctive character of its landscape and settlement patterns, and use as a framework for sustainable development and habitat restoration and to maintain and promote the enjoyment of its high levels of tranquillity and landscape.

A predominately agricultural area, Rhos Fiddle SSSI is the most extensive remaining area of upland heath.

Description

Physical and functional links to other National Character Areas

Located within the counties of Shropshire and Herefordshire, Clun and North West Herefordshire Hills National Character Area (NCA) is bounded to the north and west by the Welsh border, marked by the impressive Offa's Dyke which runs north–south along the boundary. The Shropshire Hills NCA lies to the north-east and Herefordshire Lowlands NCA to the south. A significant proportion of the Shropshire Hills Area of Outstanding Natural Beauty (AONB) lies within the northern tip of the area, creating a continuity of character with the Shropshire Hills NCA.

At their eastern edge, the hills are divided by the rivers Clun and Teme: to the east, the Shropshire Hills have far more irregular and diverse landforms. The River Clun rises near the hamlet of Anchor, close to the Welsh border, discharging into the River Teme at Leintwardine, Herefordshire. The River Teme is the second largest tributary of the River Severn, rising in the Kerry Hills in Wales and flowing south-easterly through the towns of Knighton and Ludlow.

In the centre of the area, the steep-sided, shallow-domed hills of Clun Forest are similar in character to the Welsh hills. On the western border they rise to high moorland, sweeping westwards into Powys. Ridgetops offer panoramic views, with long views down narrow, twisting valleys widening eastwards to the adjacent Shropshire Hills.

There has long been an important transport corridor via the A488 from Wales to the more settled landscape of the Shropshire and Staffordshire Plain NCA.

An undulating, rural area where many water courses are unimproved and noted for their high water quality and associated riparian habitat.

Key characteristics

- This is an undulating, tranquil, rural area, divided by the narrow valleys of the River Clun and River Teme. The steep-sided, shallow-domed hills of Clun Forest are similar in character to the Welsh hills. Small, wooded, enclosed upper valleys broaden to flat-bottomed, farmed lower valleys.
- The area is composed of two distinctive geological regions as a result of earth movements along the Church Stretton Fault, which runs diagonally south-westwards through the NCA. To the north-west, the deep water deposits of the Silurian Period give rise to a dissected plateau with glacially deepened valleys running eastwards out of Wales. To the south-east, the shallow water deposits are characterised by a continuation of the dip-and-scarp topography of the adjacent Shropshire Hills NCA. The landscape expression of these geological differences epitomises the transition eastwards from upland to lowland Britain.
- Cool climate, high rainfall and acidic brown earth soils give rise to moorland vegetation in the uplands, while arable cultivation is carried out on lower slopes, where the soils are silty but free-draining.
- The main rivers in the NCA are the east-flowing rivers Teme and Lugg, The rivers Redlake, Clun, Unk and Kemp flow south-eastwards, meeting to form flood plains of alluvial sands and silts. Many watercourses are 'unimproved', retaining a great deal of physical and biological diversity, and are noted for their high water quality and associated riparian habitat. They provide important habitats for species such as Atlantic salmon, freshwater pearl mussel and dipper.
- Well wooded area with semi-natural woodland, upland oak and wet woodland, especially on steep valley slopes. Ancient woodland and Plantations on Ancient Woodland Sites are important features. Woodland habitats hold important assemblages of nationally declining bird species, including wood warbler, pied flycatcher, redstart and tree pipit. The straight edges of large, conifer plantations contrast with the remnant, ancient, semi-natural woodland.
- Ancient wood pasture and parkland is extensive and an important habitat, with fine specimens of veteran trees in unimproved pasture supporting nationally rare lichens and insects such as scarlet longhorn beetle and high brown fritillary.
- Moorland, extensive areas of unimproved semi-natural grassland, purple moor-grass, rush pasture and lowland flood plain grazing marsh can be found across the area.
- Irregular field patterns in valleys and around settlements contrast with large, rectilinear fields on higher ground.
- A Welsh settlement pattern of isolated farmsteads, small fields and Welsh farm names in the uplands contrasts with nucleated villages, castles, and English and anglicised names in the valleys.
- The area holds a large number of heritage features from Offa's Dyke to iron-age hill forts, castles and the conical mounds of mottes and planned boroughs on the eastern edge.
- The NCA offers an extensive network of rights of way and open access land, as well as the Offa's Dyke National Trail. There are a number of other local trails such as the Herefordshire Trail, Mortimer Trail, Shropshire Way and Jack Mytton Way.

Clun and North West Herefordshire Hills today

The rounded North West Herefordshire Hills join the Clun Hills to extend north-westwards in a uniform pattern to the Welsh border and the Shropshire Hills NCA, and slope down to join the Herefordshire Lowlands NCA in the south-east. The Welsh border forms the westerly boundary of the NCA, with the rolling hills contiguous with similar countryside in central Wales, contrasting with the Welsh Marches. There is no distinct boundary between the NCAs, which grade into one another. The area is rural and sparsely populated, with the upland nature being divided by narrow, wooded upper valleys that broaden to flat-bottomed, farmed lower valleys to the east. A significant proportion of the northern part of the NCA lies within the Shropshire Hills AONB, which mirrors the NCA boundary and stretches across significant sections of the neighbouring Shropshire Hills NCA.

The geological structure of the NCA is dominated by the southern extension of the Church Stretton Fault, which runs diagonally across from the north-east to the south-west. Though broadly contemporary in age, the rocks either side of the fault are significantly different in nature and landscape expression. The rolling blocks of rounded hills separated by ice-enlarged valleys of the Clun Forest area in the north-west contrast with the dip-and-scarp topography to the south-east. The relatively cool and wet climate, with underlying acidic brown earths, give rise to moorland vegetation on higher land, while elsewhere it is predominantly pasture, with some arable cultivation on lower slopes where there are good quality silty and free-draining soils.

The extent of semi-natural habitats is limited but there are areas of major importance for nature conservation, including river systems and their associated habitats, ancient woodlands, species-rich grasslands and heathland. The area's three main rivers are the River Teme and its tributary the Clun, both part of the Severn catchment, and the River Lugg, which flows into the Wye. All flow west–east and are noted for their high water quality and associated habitats, such as wet meadows, flushes, carr woodlands and riparian areas. The River Teme is designated a Site of Special Scientific Interest (SSSI) for its important flora, fish and invertebrate fauna, including priority species such as twaite shad, sea lamprey, Atlantic salmon, otter and white-clawed freshwater crayfish. The River Clun Special Area of Conservation (SAC) forms part of the River Teme SSSI and is designated for freshwater pearl mussel, supporting one of the last populations in England and Wales. The River Lugg is designated an SSSI for its important flora and invertebrate fauna, such as white-clawed freshwater crayfish and otter. There are a few areas of standing open water, and those of most importance are Flintsham and Titley Pools, which provide habitat for wildfowl such as wigeon, teal and water rail.

Woodland is one of the most important habitats, holding nationally important assemblages of woodland bird species such as wood warbler, pied flycatcher, redstart and tree pipit. Woodland is at its densest on the steep slopes of the narrow valley heads where upland oak woods and mixed broadleaved woodland persist. From Clun eastwards, there are substantial conifer plantations, often extending over the hill tops. The plantations are sometimes on ancient woodland sites and where ancient features survive this provides valuable areas of biodiversity, supporting species from both the coniferous and original broadleaved woodland. Downton Gorge SAC lies within the River Teme SSSI: a ravine forest supporting small-leaved and large-leaved lime, together with ash, elm and a wide range of ferns, considered to be one of the best examples of its type in the UK. It is a National Nature Reserve and is the 'type site' for Payne Knight's 'picturesque' landscapes.

Wood pasture and parklands are scattered throughout the area, with the mature trees supporting important assemblages of epiphytic lichens, mosses and invertebrates. Brampton Bryan Park SSSI is designated for its rare lichens and rich invertebrate fauna as well as for its areas of heathland dominated by heather and gorse, an uncommon habitat in Herefordshire. The combination of dense woodland on valley sides, coniferous plantations and the hedgerows and hedgerow trees gives the area a well-wooded, tranquil feel, especially in the Clun valley.

The landscape is predominately pastoral with improved or rough grazing on the hill tops to the west and a higher proportion of arable land in the lower-lying areas around Bishop's Castle and Leintwardine. In places, arable farming and improved pasture have crept up to the high slopes giving the land a patchwork quilt effect. Much of the moorland has been reclaimed for agriculture and Rhos Fiddle SSSI is the most extensive remaining moorland area. Smaller areas of semi-natural upland habitats persist, often within common land, and hold regionally important populations of upland birds such as curlew and snipe, along with other priority species such as the small pearl-bordered fritillary.

The NCA has high survival of traditional timber-frame buildings dating from the 18th century and earlier.

Field patterns are irregular in the narrow valleys and around settlements, typically bounded by hedgerows, contrasting with the large, rectilinear fields resulting from enclosure of the 18th and 19th centuries on the higher ground. On the flood plains, where typically there is intensive permanent pasture, tree cover is sparse and hedgerows intermittent. The lower slopes have a regular pattern of large fields, often cut through by small streams and drifts of bankside woodland. The deeply rural area and mosaic of habitats mean that this is one of the most tranquil places in England.

It is a sparsely populated landscape to the west, with villages and hamlets concentrated in upper valleys linked by narrow lanes and tracks. To the east, settlements become more frequent, located on lower ground and often sited close to river crossings. Buildings are often constructed in stone with occasional brick and timber-frame structures. The building materials used provide a link to the differences in geology on either side of the Church Stretton Fault, with more resistant grey shales and sandstone in the Clun area, and limestones such as Aymestrey Limestone in the south-east.

The area holds a large number of historic environment interests, including stone castles, the conical mounds of mottes (conspicuous on the lower edges of the river valleys), Roman forts and camps, Offa's Dyke (an outstanding monument to this period) and iron-age hill forts (of which Bury Ditches is considered one of the finest in Britain). Senses of inspiration and escapism are associated with the panoramic views across the plateau and long vistas along valleys, attracting visitors who are well served by Offa's Dyke National Trail and other walking routes. The historic intermixture of Welsh and English settlement provides cultural interest along with the area's literary associations with Sir Walter Scott and A.E. Housman's cycle of poems 'A Shropshire Lad'.

The landscape through time

The solid geology of the area is mainly Silurian in age, formed 439–416 million years ago, but represents two very different conditions of deposition as a result of the Church Stretton fault zone. This runs diagonally through the area, from Craven Arms in Shropshire south-westwards towards Kington in north Herefordshire, giving rise to different landforms on each side.

To the south-east of the fault there is the region around Leintwardine and Ludlow, with a distinctive series of shallow water deposits characteristic of the Silurian Period. Limestone formations alternating with less resistant shales, with a regional dip to the south, have resulted in a classic dip-and-scarp topography.

To the north-west is the Clun Forest region, where rocks of the Silurian Ludlow Series comprise a sequence of deeper water sediments, including greywackes (sediments deposited in a turbid continental slope environment) and fine-grained mudstones, shales and sandstones. There is a gradual transition to the overlying Pridoli Series, a sequence of sandstone, shale and mudstone deposits associated with estuarine and deltaic environments draining the uplifted 'Caledonian Mountains' to the north. Subsequent folding has tilted the rocks in the Clun area, producing the north–south Ludlow or Wigmore anticline and associated syncline.

There are several small inliers of older Precambrian rock (590–575 million years ago), which crop out in the north as a southern extension of the Long Mynd plateau adjacent to the Church Stretton Fault. While the impact on the overall landscape is slight, this long elevated ridge remains an open grazing space at Hopesay Common and the distinctive Precambrian rock was used as building stone on the extensive Harley Estate. West of Kington, a kilometre across the border into Powys, the Precambrian outcrops of The Gore on Old Radnor Hill and Dolyhir provide a physical western boundary to the NCA.

The north–south geological 'grain' is masked by the easterly-flowing drainage system which arose about 40 million years ago through the uplift, easterly tilt and erosion of the Welsh Tertiary plateau. Subsequently the rivers Teme and Clun had their valleys greatly enlarged by glaciers flowing out from Wales at each phase of glaciation up to the Devensian Period, only 25,000 years ago. This has resulted in the Clun Forest area being chopped up into rolling blocks of rounded hills, fairly uniform in height at around 427m., separated by ice-enlarged valleys running west–east.

There is extensive evidence for woodland clearance and the use of the eastern uplands for summer grazing from the prehistoric period. Transport routes such as the Clun–Clee Ridgeway were used to move between high points, only dropping into the valleys to ford rivers. By the Bronze Age, substantial areas of woodland had been cleared and the practice of seasonal movement between upland and lowland grazing pastures began, persisting into the Middle Ages.

From the late Bronze Age and Iron Age, hill forts were developed, possibly reflecting a period of rapid expansion and colonisation associated with settlements on the lower ground. The most prominent is Bury Ditches hill fort, considered one of the finest in Britain. There is evidence for coaxial field patterns in north-west Herefordshire, retained in the later field enclosure pattern.

Roman occupation is evident from a range of Roman forts and camps throughout the area. The Romans constructed a new north–south transport route across the

Wigmore marshes linking the major Roman towns of Wroxeter and Caerleon. The village of Leintwardine was developed in the footprint of a substantial Roman fort where this route intersected the Clun–Clee Ridgeway, reflecting the continuing importance of east–west trade routes to transport stock to the Midlands and beyond. This new route ran south from Leintwardine through the Aymestrey gap and Mortimer's Cross, a course now followed by the modern A4110.

The area's long history as a frontier landscape continued with the construction of Offa's Dyke in the 8th century, forming a defence and boundary of the Saxon kingdom of Mercia to the east and kingdom of Powys to the west. Saxon settlement occurred mainly in the river valleys but the picture given in Domesday Book is of a lightly populated area with much woodland, little arable land and a substantial Welsh presence.

From the late 11th century into the 12th century, as a result of the Norman conquest, earthen motte-and-bailey castles were built in the central hills and vales to establish control over the area, and Lords of the Welsh Marches, such as the powerful Mortimers at Wigmore Castle, had many special privileges. Planned late 11th to 13th century settlements in lower valleys were often strategically sited at river crossings and range from planned boroughs such as Bishop's Castle and Clun to linear-plan villages with church and / or castle. Estates developed from this period, often around defensive structures, and the area is now strongly characterised by small manor houses of medieval and later date and designed parklands like Brampton Bryan and Croft, often developed from medieval deer parks. Much of the area was part of the Clun Forest and possibly retained substantial woodland until Elizabethan times. Common fields lay around boroughs and hamlets with irregular enclosed fields, particularly on valley sides. Most of the hills were unenclosed common grazing. Woodland and heathland were brought into cultivation after the mid 14th century following piecemeal enclosure of common fields. The hillsides remained substantially unenclosed until the 19th century. This enclosure was the major post-medieval change along with the development of landscape parks.

The 20th century saw considerable agricultural improvement of the hills along with conifer planting. The extension of arable land and improved pasture onto higher ground changed the historic pattern of cultivation in the area, resulting in more prominent farm buildings within farmsteads. Cattle formed the mainstay of agriculture into the 20th century, stimulating the need for crops for feed. However, more recently sheep grazing has increased. Larger farms within the Wigmore basin moved into arable production by the 19th century. This trend continued, resulting in changes to the landscape and a decline in biodiversity. However, agricultural stewardship is now being successfully used as a means of addressing these issues. As a remote area, development pressures have been low, and it remains a tranquil rural locality.

The area holds a vast number of historic environment interests including the iron-age hillfort at Bury Ditches, considered one of the finest in Britain.

Ecosystem services

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

Provisioning services (food, fibre and water supply)

- **Food provision:** Sheep and beef farming are the main enterprises in the Clun and North West Herefordshire Hills NCA, with smaller amounts of arable farming and fruit (apples and damsons). The predominant land use is grass and uncropped land accounting for 71 per cent of the total farmed area, with cereals accounting for just 19 per cent.

- **Water availability:** The main uses of water in the catchment are for public water supply and agriculture, with very little industrial use. However, there is no further water available for abstraction from surface water or groundwater sources, including from the River Teme and its tributary the River Clun, which has no water available in order to protect flow levels downstream in the River Severn. The rivers Lugg and Arrow, crossing the south of the NCA, also have no water available. There are no underlying major aquifers.

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

- **Regulating water quality:** The rivers in this NCA are generally classed as having good ecological status and the groundwater chemical status is also good. Despite these high standards of water quality, the entire NCA lies within one of Defra's priority Catchment Sensitive Farming catchments. Priorities in the River Teme catchment are to reduce the impact of grazing and overwintering livestock on water quality; to minimise the impact on watercourses from point-source farmyard pollution; and to reduce soil and nutrient run-off from managed grasslands and cultivated fields. Priorities in the River Lugg catchment are to reduce run-off from farmyards and fields and to keep livestock away from watercourses. Semi-natural habitats, including woodlands, play an important role in reducing sediment and nutrient run-off, and stabilising the soil.

- **Regulating water flow:** In the north of the NCA, there is a moderate level of fluvial risk associated with the rivers Teme and Clun but the risk of flooding is not expected to increase significantly in the long term. In this area, the Environment Agency is considering opportunities to restore sustainable natural storage of floodwater on undeveloped flood plains. In the south of the NCA, fluvial flood risk is low to moderate. There is important agricultural land in this area, with a large proportion of good quality land at flood risk. The Environment Agency supports opportunities to store water or manage run-off to reduce flood risk and provide wider environmental benefits, including along the River Lugg.

- **Regulating soil quality:** The freely draining, slightly acid and loamy, soils that cover two thirds of the area are permeable and allow for the recharge of groundwater. This requires the maintenance of good structural conditions to aid water infiltration, helped by the addition of organic matter, and the matching of nutrients to needs, which also prevents groundwater pollution.

- **Regulating soil erosion:** Over 80 per cent of the area is covered by soils at risk of soil erosion. The dominant freely draining, slightly acid and loamy soils have an enhanced risk of soil erosion on moderately or steeply sloping land where cultivated or bare soil is exposed. This is exacerbated where organic matter levels are low after continuous arable cultivation or where soils are compacted. There is potential for wind erosion on some coarse-textured, cultivated soils.

The stone packhorse bridge at Clun, built in 1450, remains an important crossing site of the River Clun.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** Sense of place is provided by the rolling, rounded, upland hills that are divided by several small, wooded, narrow valleys, including the Teme, Lugg, Clun and Onny, which widen to the east. There are extensive areas of unenclosed grasslands and moorlands on hill tops, creating a wide, open landscape with slopes largely under grass. On lower land, the valleys become flatter with more extensive flood plains, enabling more intensive arable and mixed farming while retaining a pastoral character. Senses of inspiration and escapism are associated with the panoramic views across the plateau and long vistas along valleys; the parklands, castles and hill forts; and extensive woodland cover. The area has literary associations with Sir Walter Scott and is referenced in A.E. Housman's cycle of poems 'A Shropshire Lad'.

- **Sense of history:** The history of the landscape is most evident in its long associations with cross-border defence and settlement, defined by iron-age hill forts visible on many hill tops, the massive border earthwork of Offa's Dyke, and motte-and-bailey castles. In the hamlets and villages, the fortified Norman churches and houses emphasise the border character of this area, often termed 'Middle Welsh Marches', as does the mixture of English and Welsh settlement pattern, tenure and place names. Aspects of history likely to be most evident to the general public are the landscapes developed on ancient sites such as Brampton Bryan and Croft Castle as well as other Registered Parks and Gardens, including Downton Castle, Walcot, Eywood and Stokesay Court. In addition, the former market towns of Kington and Bishop's Castle are attractive historic settlements.

- **Tranquillity:** Tranquillity is a significant feature of the NCA, with 97 per cent of the area classified as 'undisturbed'. The area remains largely unaffected by development apart from the northern edge of Knighton and Kington, and the western edges of Craven Arms and Ludlow which include the A49. A sense of tranquillity is particularly associated with the deeply rural character of the area with its extensive woodland and contrasting lowland and upland patterns of field boundaries, distinctive lines of trees along watercourses, extensive pastures and occasional parklands.

- **Recreation:** Recreation is supported by Offa's Dyke National Trail as well as 966 km of rights of way and 1,407 ha of Open Access land. Further opportunities for recreation include regional routes such as the Jack Mytton Way, the Shropshire Way, the Mortimer Trail, the Herefordshire Trail and the Black and White Village Trail.

- **Biodiversity:** There are three internationally designated Special Conservation Areas within the NCA – Downton Gorge, River Clun, and River Wye. Downton Gorge is a narrow ravine with a distinctive microclimate, supporting lime, ash and elm woodland as well as being rich in a wide range of fern species. The three main rivers, the Teme, Clun and Lugg, are noted for their high water quality and associated habitats. Both the Teme and Lugg are designated Sites of Special Scientific Interest and are among the 24 SSSI in the NCA, totalling 590 ha, with a further 5,620 ha designated as local wildlife sites. There are over 6,000 ha of priority habitat, and almost two-thirds of this is comprised of lowland, mixed deciduous woodland, along with wet woodland and upland oak wood habitats.

- **Geodiversity:** This is a very important area for geology and is where much of the pioneering work that established the foundations of geology was undertaken. For example, the Mortimer Forest SSSI, which exposes rocks belonging to the Wenlock and Ludlow Series, is a global reference locality for the Ludlow Series. This importance is reflected in the 10 Geological Conservation Review sites in addition to the 70 local geological sites, many of which are disused quarries. The link between the underlying geology and the form of the landscape is strong, and the influence on land use and the use of building stone contributes to the area's local character. Working quarries are still found in the NCA, including at Hergan Hill and Leinthall Earls. The NCA is internationally significant for its geodiversity and is critical to geological research and learning.

The River Clun Special Area of Conservation (SAC) forms part of the River Teme SSSI and is designated for fresh water pearl mussel.

Statements of Environmental Opportunity

SEO 1: Protect, manage and enhance the open, expansive upland habitats of the Clun to ensure that they are healthy and contiguous, contributing to landscape character, protecting the important species, improving the soil and water resources that they support, and contributing to the tranquillity and recreation opportunities in the area.

For example, by:

- Promoting sustainable and resilient pastoral upland farming systems and businesses that provide multiple benefits.
- Managing and enhancing the extent, diversity and condition of upland habitats to ensure that they can support the important assemblages of bird species, allowing population sizes to be maintained and, where possible, increased.
- Maintaining and restoring vegetation cover on degraded areas of heathland through sustainable grazing regimes to reduce poaching, aid water infiltration and reduce the loss of peat soils through erosion.
- Seeking opportunities to restore and enhance links between fragmented upland habitats to improve the condition and increase the area of the vegetation and achieve a strong ecological network that is resilient to climate change and supports more species.
- Conserving ancient upland, semi-natural woodland, including oak woods and mixed deciduous woodland on valley sides, to retain the biodiversity interest and enhance habitat provision for the associated flora and fauna.
- Planting woodlands on the steep slopes where this can expand priority habitats and act to protect soil erosion and loss.
- Seeking opportunities to restore and manage the unimproved grassland, including acid grassland, calcareous grassland and purple moor-grassland, by resisting further losses or degradation and preventing scrub encroachment; by promoting appropriate, sustainable management, and encouraging sensitive management of adjoining land.
- Supporting the aims of the Shropshire Hills Area of Outstanding Natural Beauty in conserving and enhancing the special landscape.
- Promoting grazing by traditional breeds, especially cattle, to deliver a more varied sward and habitat mosaic, to enhance biodiversity and strengthen adaptation to climate change.
- Promoting the protection and restoration of paths on popular hiking routes for the continued enjoyment of visitors and to prevent soil erosion.
- Protecting the tranquillity, remoteness, openness, night skies, and views both inwards and outwards of the Clun and North West Herefordshire Hills NCA.

SEO 2: Protect, manage and enhance the valleys, to improve the habitat mosaic of semi-natural grasslands, meadows, woodlands, hedgerows and riparian habitats within the mosaic of improved pasture to enhance ecological networks, strengthen the distinctive landscape character and contribute to the delivery of ecosystem services such as food provision, wood supply, soil protection and improving water quality.

For example, by:

- Conserving and enhancing the mosaic and diversity of woodlands, trees, grasslands and semi-natural habitats by working with farmers and landowners to restore and maintain these habitats in a favourable condition and enable them to capture and store carbon, to reduce run-off and sedimentation in rivers.
- Managing woodlands to enable natural regeneration of existing woodlands.
- Planting of new, small-scale native woodlands; to expand and connect existing woodlands, particularly small areas of ancient, semi-natural woodland along the slopes and valley sides, to strengthen landscape character and improve their role in capturing and storing carbon.
- Developing the potential of woodland to contribute to the local economy, including products, skills, crafts and wood fuels.
- Ensuring that woodlands are well managed to reduce run-off, guard against soil erosion, improve water quality and improve their role in capturing and storing carbon; and thinning coniferous woodland and replanting with native species where appropriate.
- Promoting and developing the use of trees of local genetic provenance, free from disease, for stocking and replanting to reduce opportunities for the spread of disease.
- Maintaining standing dead trees and fallen trees within historic parkland, hedgerows and woodland to provide habitats for a range of species, including invertebrates, roosting bats and birds, and replanting to replace fallen / decayed, ancient / mature trees to maintain landscape character and sense of place and to enhance biodiversity.
- Planning for the expansion of various habitats, informed by an understanding of the historic development, ecology, recreational use, potential and agriculture of the area, to create an interconnected network and mosaic of habitats, thus improving climate change resilience, preventing soil erosion and enhancing landscape character.
- Promoting the management of species-rich hay meadows and pastures, to conserve and enhance their biodiversity interest.
- Developing stronger local food markets and branding, to support local producers and traditional products by creating strong links between people, food and landscapes.
- Encouraging the use of field margins, beetle banks and headlands in arable land, to encourage pollinators and pest-regulating species and to act as wildlife corridors.
- Retaining, restoring, managing and planting new hedgerows in traditional local style, to enhance landscape character and improve habitat connectivity, particularly where this can assist in regulating soil erosion.
- Working with the local authorities/parishes to create multifunctional green spaces incorporating sympathetic management for pollinators, including appropriate management of road verges, adding to the network of nectar sources close to food crops requiring insect pollination.

SEO 3: Protect and manage the rivers Teme, Clun and Lugg and associated watercourses, along with their flood plains, wetlands and woodlands, to maintain high water quality and enhance their nature conservation interest, to strengthen their contribution to landscape character, to help reduce the potential risk of flooding both within the NCA and downstream, and to increase the recreational opportunities they provide for public enjoyment.

For example, by:

- Enhancing important riverine habitats, in particular those supporting endangered species such as the freshwater pearl mussel, by promoting a whole-catchment approach to enhancing the water quality within the NCA's rivers and streams to restore and maintain very good water quality and comply with the Water Framework Directive.
- Ensuring that any future development addresses water use, abstraction and demand, to minimise impacts on water quality, resources, flood risk and associated aquatic habitats, and to improve the ecology and resilience of reservoir and river systems.
- Working with the farming community to promote good land, soil and water management on farmland, and ensuring that farm practices maximise grass growth, minimise run-off rates and reduce diffuse pollution.
- Promoting sustainable river management that works with natural processes and allows storage of floodwaters to reduce run-off rates and manage the downstream flood risk.
- Retaining, restoring and protecting bankside vegetation and the natural flood plain function of the rivers by appropriately managing, restoring and creating wetland habitats such as flood plain wetlands
- Improving the management of agricultural drainage and land use to increase floodwater storage capacity, reduce surface water run-off and soil erosion, thus mitigating the impacts of flooding, improving resilience to climate change, and improving water quality and biodiversity.
- Working with the farming community and water companies to create grassland buffer strips, water meadows and wet woodland adjacent to rivers in order to reduce soil erosion and improve water quality.
- Promoting sustainable recreational opportunities along and on the watercourses, enabling quiet enjoyment while continuing to conserve and enhance biodiversity.
- Managing invasive non-native species, such as Himalayan balsam, and monitoring the impacts of plant disease, such as Phytophthora which affects bankside alders, so they do not damage the area's biodiversity and the structure of bankside habitats.

Buffer strips alongside the River Clun to reduce soil erosion and improve water quality.

SEO 4: Conserve and enhance the area's distinctive historic environment, cultural heritage and nationally important geological sites, demonstrating how the interaction of natural and historic factors has influenced the distinctive character of its landscape and settlement patterns, and use as a framework for sustainable development and habitat restoration and to maintain and promote the enjoyment of its high levels of tranquillity and landscape.

For example, by:

- Conserving, enhancing and making accessible the network of geological sites where appropriate to help improve understanding of the role that geodiversity plays, in particular its connection with biodiversity, landscape character, and industrial and cultural heritage.
- Working in partnership to protect and interpret the core designated sites and series of Local Geological Sites, managing them to improve their accessibility and condition.
- Supporting partnerships in their endeavours to re-connect people with the environment, demonstrating how the natural and historic features contribute to the wider landscape character and ensuring long-term sustainability through a vibrant network of community groups.
- Encouraging people to volunteer and get involved in geo-conservation and surveying to assist with the surveillance and ongoing management of sites.
- Developing sustainable access and recreation opportunities throughout the NCA, exploring opportunities to increase sustainable tourism initiatives that will improve visitors' enjoyment, understanding and environmental awareness; and supporting the local economy while protecting the special qualities of the area.
- Promoting the conservation of heritage features, including archaeological sites, vernacular building styles, castles, hill forts and landscape parks.
- Conserving, managing and interpreting historic parklands, including the establishment of new generations of trees that are sensitive to their historic character.
- Restoring historic field boundary patterns, especially where they run across slopes, to provide a buffer to soil erosion and nutrient run-off, and replace post-and-wire fencing with hedgerows in the local style.
- Improving the condition of heritage assets through appropriate measures and seeking to reduce conflicting or unsympathetic management regimes, while recognising the high potential in this landscape for undiscovered remains.
- Managing and enhancing past mineral extraction sites to ensure their integration into the landscape and to provide opportunities for semi-natural habitats.
- Creating strong links between nature-based activities and the local community and economy – for example, encourage and incentivise local businesses such as bicycle hire, woodland management, guided walks and farm diversification to develop local tourism.

Continued on next page

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- Using understanding of the traditional and historic architecture and its distinct patterns of settlement to inform appropriate conservation and use of historic buildings, and to plan for and inspire any environmentally beneficial new development that makes a positive contribution to local character.
- Maintaining a sense of tranquillity through ensuring that new development is sympathetic to these objectives, and planning new development so that it does not increase disturbance through traffic or light pollution.
- Promoting the Offa's Dyke National Trail and its links to the local area to provide sustainable business and tourism opportunities for the benefit of local communities.
- Developing interpretation material for the area that promotes its unique qualities, wildlife and links to wider environmental issues such as climate change.
- Developing the rights-of-way network and promoting opportunities to visitors for circular walks of various lengths – ensuring that paths are well marked and maintained and that key features, wildlife and points of interest are highlighted.
- Promoting the use of sustainable transport throughout the NCA.

A long history as a frontier landscape - earthen motte-and-bailey castles were built in the central hills and vales to establish control over the area. Hopton Castle is a fine example.

Supporting document 1: Key facts and data

Clun and North West Herefordshire Hills National Character Area (NCA): 62,554 ha

1. Landscape and nature conservation designations

The Clun and North West Herefordshire Hills NCA contains 28,089 ha of the Shropshire Hills Area of Outstanding Natural Beauty (AONB), which represents 45 per cent of the NCA.

Source: Natural England (2011)

1.1 Designated nature conservation sites

The NCA includes the following statutory nature conservation designations:

Tier	Designation	Designated site(s)	Area (ha)	% of NCA
International	n/a	n/a	0	0
European	Special Protection Area (SPA)	n/a	0	0
	Special Area of Conservation (SAC)	Downtown Gorge SAC, River Clun SAC, River Wye SAC	86	<1
National	National Nature Reserve (NNR)	Downtown Gorge NNR	48	<1
National	Site of Special Scientific Interest (SSSI)	A total of 24 sites wholly or partly within the NCA	590	1

Source: Natural England (2011)

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

There are 234 local sites in Clun and North West Herefordshire Hills NCA, covering 5,619 ha which is 9 per cent of the NCA.

Source: Natural England (2011)

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

1.1.1 Condition of designated sites

Condition category	Area (ha)	% of SSSI land in category condition
Unfavourable declining	0	0
Favourable	73	13
Unfavourable no change	46	8
Unfavourable recovering	437	79

Source: Natural England (March 2011)

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

2. Landform, geology and soils

2.1 Elevation

The lowest elevation in this NCA is 72 m; the highest point is 493 m. The mean elevation across the NCA is 238 m.

Source: Natural England (2010)

2.2 Landform and process

The rounded North West Herefordshire Hills rise out of the Herefordshire Lowlands, joining the Clun Hills to extend north westwards in a rolling, rhythmic pattern to the Welsh border. At their eastern edge, the hills are divided by the rivers Clun and Teme and their tributaries; to the east, the Shropshire Hills have far more irregular and diverse landforms. In the centre of the area, the steep-sided, shallow domed hills of Clun Forest are similar in character to the Welsh hills to the west. On the western border they rise to high moorland sweeping westward into Powys. This wild open countryside changes east Llanfair Hill and the landscape becomes more domesticated. On the ridge tops there are panoramic views, which emphasise the area's plateau origin, as well as long views down narrow, twisting valleys which widen eastwards. The heads of the valleys are narrow and deeply incised with woodland on the steepest slopes. Down valley they widen to significant flood plains, around the Teme and its tributaries, such as Wigmore Basin.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description

2.3 Bedrock geology

The Silurian sediments (416 to 439 million years) represent fluctuating marine conditions between the shallow water of the continental shelf and the deepening water westwards of the continental slope. The former is epitomised by the Much Wenlock Limestone Formation, and a second recurrence with the Aymestry Limestone. Deeper and/or muddier waters following higher sea levels give the intervening shales. The Pridoli sees an almost seamless transition in the NCA from fully marine to estuarial and deltaic conditions across the old Silurian boundary of the Ludlow Bone Bed.

A few inliers of sedimentary Precambrian rock (550 to 540 million years) are caught up in the Church Stretton Fault zone. This Longmyndian rock represents a shallow water basin accumulation of the erosion products of the volcanic Uriconian uplands.

Source: Clun and North West Herefordshire Hills Geodiversity Narrative, West Midlands Geodiversity Partnership

2.4 Superficial deposits

The youngest sediments exposed in the NCA are late Pleistocene-aged (Devensian, 80,000 to 10,000 BP) or younger. Devensian sands and gravels were deposited in fluvialglacial and periglacial environments in front of the ice sheets which covered much of Shropshire during this last 'Ice Age'.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description

2.5 Designated geological sites

Designation	Number
Geological Site of Special Scientific Interest (SSSI)	10
Mixed interest SSSI	1

There are 70 Local Geological Sites within the NCA.

Source: Natural England 2011

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

2.6 Soils and Agricultural Land Classification

The soils are mainly well-drained, acidic brown earths developed from the surface layers of the Silurian beds that have been disturbed by surface creep or frost action. On the lower slopes, the soils are silty but still free-draining and it is here that arable cultivation is most successful.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description

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

Agricultural Land Classification	Area (ha)	% of NCA
Grade 1	6	<1
Grade 2	5,608	9
Grade 3	25,341	41
Grade 4	21,624	35
Grade 5	6,099	10
Non-agricultural	3,454	6
Urban	126	<1

Source: Natural England (2010)

- Maps showing locations of statutory sites can be found at: http://magic.defra.gov.uk/website/magic/ - Select 'Landscape' (shows ALC and 27 types of soils)

This area has a long history as a frontier landscape. Offa's Dyke forms the west boundary of the Saxon Kingdom of Mercia and runs north-south along the NCA's boundary with Wales.

3. Key water bodies and catchments

3.1 Major rivers/canals

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

Name	Length in NCA (km)
River Teme	33
River Clun	32
River Lugg	15
River Arrow	12
River Onny	4
River West Onny	2
River Wye	1

Source: Natural England (2010)

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

The NCA forms the western catchment of the River Teme. The south-east flowing rivers of Redlake, Clun, Unk and Kemp meet to the east to form floodplains of alluvial sands and silts. The three main rivers that occur in the area are the River Teme and its tributary the Clun, which are part of the Severn catchment, and the River Lugg, which flows into the Wye. All flow from west to east and are noted for their high water quality and associated habitats. The main rivers have escaped the 'improvement' to which many rivers were subjected to in the 1970s and 1980s and therefore retain a great deal of physical and biological diversity. Both the River Teme and River Lugg are SSSI.

3.2 Water quality

The total area of Nitrate Vulnerable Zone is 8,777 ha, 14 per cent of the NCA.

Source: Natural England (2010)

3.3 Water Framework Directive

Maps are available from the Environment Agency showing current and projected future status of water bodies at: http://maps.environment-agency.gov.uk/wiyby/wiybyController?ep=maptopics&lang=_e

The river systems, such as the River Clun SAC, are of major conservation importance.

4. Trees and woodlands

4.1 Total woodland cover

The NCA contains 10,808 ha of woodland (17 per cent of the total area), of which 5,245 ha is ancient woodland.

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

4.2 Distribution and size of woodland and trees in the landscape

The heads of the valleys are narrow and deeply incised with woodland on the steepest slopes, frequently deciduous in nature. From Clun eastwards, there are substantial conifer plantations, often extending over the hilltops. The plantations are sometimes on ancient woodland sites. In other cases they are recent with conspicuous straight edges, at odds with the predominantly rounded landforms.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description

4.3 Woodland types

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

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

Woodland type	Area (ha)	% of NCA
Broadleaved	4,248	7
Coniferous	5,158	8
Mixed	480	1
Other	922	1

Source: Forestry Commission (2011)

Area and proportion of Ancient Woodland and Planted Ancient Woodland within the NCA:

Type	Area (ha)	% of NCA
Ancient semi-natural woodland	1,054	2
Ancient re-planted woodland (PAWS)	4,191	7

Source: Natural England (2004)

5. Boundary features and patterns

5.1 Boundary features

Field boundaries are mainly hedges with a strong rectilinear pattern, although this has been affected by hedgerow removal and mismanagement.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description; Countryside Quality Counts (2003)

5.2 Field patterns

On the ridge tops, the unimproved pasture is sometimes in a patchwork with the smooth greens of improved grassland and occasional patches of arable land. On the lower slopes, there is a generally regular pattern of large fields cut through by small streams, often with drifts of streamside woodland. Around the farmsteads, hamlets and villages the field pattern becomes denser and more irregular. However, on the broader floodplains, farming is generally intensive, hedges are low and intermittent and trees are infrequent.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description; Countryside Quality Counts (2003)

6. Agriculture

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

6.1 Farm type

The majority of farms in this area were primarily grazing livestock businesses in 2009 (347 holdings, 52 per cent). Arable and horticulture holdings accounted for 13 per cent of the total, with the majority of these being cereal farms (57 holdings, 8 per cent).

Source: Agricultural Census, Defra (2010)

6.2 Farm size

The size of farm holdings was fairly evenly distributed in 2009. 27 per cent of holdings were smaller than 20 hectares and covered 3 per cent of the agricultural area. 35 per cent of holdings were between 20 and 100 hectares and covered 23 per cent of the area. 27 per cent of holdings were greater than 100 hectares and covered 73 per cent of the area. These figures do not include access farms may have to common land.

Source: Agricultural Census, Defra (2010)

6.3 Farm ownership

2009: Total farm area = 51,844 ha; owned land = 39,548 ha
2000: Total farm area = 48,052 ha; owned land = 40,003 ha

Source: Agricultural Census, Defra (2010)

6.4 Land use

In 2009, grass and uncropped land made up 71 per cent of the agricultural area, while cereals made up 19 per cent, with smaller contributions made by cash roots, oilseeds, stock feed and other arable crops.

Source: Agricultural Census, Defra (2010)

6.5 Livestock numbers

In 2009, there were 286,569 sheep (361,669 in 2000), 32,192 cattle (38,743 in 2000) and 495 pigs (2,965 in 2000).

Source: Agricultural Census, Defra (2010)

6.6 Farm labour

The area's agricultural workforce in 2009 was 1,337. Of these, 71 per cent were principal farmers, 9 per cent were part-time workers, 9 per cent were full-time workers, 8 per cent were casual/gang workers and 2 per cent were salaried managers.

Source: Agricultural Census, Defra (2010)

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

7. Key habitats and species

7.1 Habitat distribution/coverage

The parklands which are of greatest nature conservation interest are the surviving medieval deer parks with scattered ancient trees in a matrix of unimproved pasture. Brampton Bryan Park is of national importance for its invertebrates and lichens, and beside parkland contains areas of heathland dominated by heather and gorse, an uncommon habitat in Herefordshire.

There are few areas of standing open water within the NCA, and of most importance are Flintsham and Titley Pools which provide a refuge for wildfowl such as widgeon, teal and water rail.

Marshy grassland is an increasingly rare habitat, and there are several important sites within the NCA. Neutral grassland, an internationally important resource is mainly located in the southeast. There are several areas of high value acid grassland, including areas at Bircher Common and Croft Ambrey. This NCA is of some importance as a locality for the priority habitat purple moor-grass and rush pasture.

There are areas of unenclosed land, particularly in the Clun Uplands, which support a range of habitats including rough grassland, bracken, scrub and heathland. Rhos Fiddle is the most extensively remaining area for moorland (upland heath), with most of it having now been reclaimed for agriculture.

Source: Natural England 2011

7.2 Priority habitats

The Government's new strategy for biodiversity in England, Biodiversity 2020, replaces the previous Biodiversity Action Plan (BAP) led approach. Priority habitats and species are identified in Biodiversity 2020, but references to BAP priority habitats and species, and previous national targets have been removed. Biodiversity Action Plans remain a useful source of guidance and information. More information about Biodiversity 2020 can be found at; **http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/englandsbiodiversitystrategy2011.aspx**

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

Priority habitat	Area (ha)	% of NCA
Broadleaved mixed and yew woodland (broad habitat)	2,450	4
Upland heathland	311	<1
Coastal and flood plain grazing marsh	166	<1
Upland calcareous grassland	123	<1
Purple moor grass and rush pasture	81	<1
Lowland dry acid grassland	44	<1
Lowland meadows	42	<1
Lowland heathland	17	<1
Fens	7	<1
Lowland calcareous grassland	1	<1

Source: Natural England (2011)

An estimated 2,039 ha of 'wood pasture and parkland' occurs in the NCA, representing 3 per cent of the NCA area. An estimated 123 ha of 'traditional orchards' occur in the NCA, representing <1 per cent of the NCA area. This data is found on MAGIC. Detailed information may be obtained from Herefordshire Biological Records Centre or Shropshire Ecological Data Network.

Maps showing locations of priority habitats are available at

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

7.3 Key species and assemblages of species

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

8. Settlement and development patterns

8.1 Settlement pattern

Farmsteads and small hamlets lie in the upper valleys just below the exposed hilltops and above the floodplains on the lower valleys.

On the lower ground, the smaller settlements become more frequent, particularly in North Herefordshire as the landform becomes more intricate. Villages and former boroughs lie at the edges of the floodplains, usually strategically sited at river crossings. Their simple medieval plans, often dominated by a single street leading to a squat grey-stoned castle or church tower, have an attractive uniformity of character.

Small manor houses are frequent, perhaps surrounded by a home farm and near the medieval mottes that they succeeded.

In the hamlets and villages, the sturdy Norman churches emphasise the border character of this seemingly undisturbed settlement pattern.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description; Countryside Quality Counts (2003)

8.2 Main settlements

The main settlements are Bishop's Castle, Kington, Clun and Leintwardine. The total estimated population for this NCA (derived from ONS 2001 census data) is 14,251.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description; Countryside Quality Counts (2003)

8.3 Local vernacular and building materials

Farmsteads are often whitewashed or built of the greyish Silurian stone. Stone predominates within the settlements found on the lower ground, but there is some brick as well as occasional timber framing.

Source: Clun and North West Herefordshire Hills Countryside Character Area Description; Countryside Quality Counts (2003)

The village of Leintwardine - developed on the footprint of a Roman Fort, on the Roman road now known as Watling Street West. The Bravonium Fort underlies the present village.

9. Key historic sites and features

9.1 Origin of historic features

There is evidence of extensive clearance of woodland and use of eastern uplands for summer grazing by the Bronze Age, with concentration of hillforts (for example, Clun) by the Iron Age providing foci for settled communities in the valleys.

The history of the landscape is evident in its association with defence structures such as Wigmore Castle, once one of the most important castles in the Welsh Marches.

The NCA has a long history as a frontier landscape, with Offa's Dyke forming the boundary of Saxon Kingdom of Mercia to the west.

From the late 11th century into the 12th century, and as a result of the Norman Conquest, earthen motte and bailey castles were built in the central hills and vales.

Estates developed from this period, and often around these defensive foci, the area being strongly characterised by small manor houses (of medieval and later date) and landscaped parks like Brampton Bryan and Croft, often developing in the post-medieval period from medieval deer parks.

Iconic military sites are notable, such as Clun and Hopton castles, and numerous small earthwork castles reflecting centuries of border unrest in the medieval period.

Source: Countryside Quality Counts, Clun and North West Herefordshire Hills Countryside Character Area Description

9.2 Designated historic assets

This NCA has the following historic designations:

- 10 Registered Parks and Gardens covering 1,288 ha.
- 0 Registered Battlefields.
- 132 Scheduled Monuments.
- 1,102 Listed Buildings.

Source: Natural England (2010)

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

10. Recreation and access

10.1 Public access

- 10 per cent of the NCA 6,149 ha is classified as being publically accessible.
- There are 966 km of public rights of way at a density of 1.6 km per km2.
- There is 1 National Trail, Offa's Dyke, covering 32 km within the NCA.

Source: Natural England (2010)

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

Access designation	Area (ha)	% of NCA
National Trust (accessible all year)	415	1
Common Land	765	1
Country Parks	0	0
CROW Access Land (Section 4 and 16)	5,094	8
CROW Section 15	496	1
Village Greens	7	<1
Doorstep Greens	4	<1
Forestry Commission Walkers Welcome Grants	398	<1
Local Nature Reserves (LNR)	0	0
Millennium Greens	6	<1
Accessible National Nature Reserves (NNR)	4,604	0
Agri-environment Scheme Access	125	<1
Woods for People	1,844	7

Sources: Natural England (2011)

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

The Offa's Dyke National Trail traverses 32 km through the character area and is a popular attraction for visitors.

11. Experiential qualities

11.1 Tranquillity

Based on the CPRE map of tranquillity (2006) the upland areas are the most tranquil with the areas around Clun, Bishop's Castle and Kington being least tranquil. However, it is to be noted that overall Clun and the North Herefordshire Hills is one of the most tranquil areas in England.

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

Category of tranquillity	Score
Highest	47
Lowest	-50
Mean	14

Sources: CPRE (2006)

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

11.2 Intrusion

The 2007 Intrusion Map (CPRE) shows the extent to which rural landscapes are 'intruded on' from urban development, noise (primarily traffic noise), and other sources of visual and auditory intrusion. This shows the upland areas are the most tranquil with the areas around Clun, Bishop's Castle and Kington being least tranquil. However, it is to be noted that overall Clun and the North Herefordshire Hills is one of the most tranquil areas in England. A breakdown of intrusion values for this NCA is detailed in the following table.

Intrusion category	1960s (%)	1990s (%)	2007 (%)	Percentage change (1960s-2007)
Disturbed	1	1	3	2
Undisturbed	99	98	97	-2
Urban	0	0	0	0

Sources: CPRE (2007)

Notable trends from the 1960s to 2007 are a slight increase in the area of disturbed/intruded land by 2 per cent matched by a decrease in the areas of undisturbed/un-intruded land by 2 per cent.

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

The mix of straight and irregular hedgerow boundaries suggest the land around this farmstead has been enclosed on a piecemeal basis since the Medieval period.

12. Data sources

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

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

Supporting document 2: Landscape change

Recent changes and trends

Trees and woodlands

- New planting appears to be in smaller blocks away from major plantations, with some agreements for expansion of upland oak and lowland broadleaves. The proportion of sites covered by a woodland grant scheme has remained relatively stable.
- Conifer plantations have changed the character of the landscape in some areas particularly the Clun Forest and North West Herefordshire Hills.
- Some deciduous woodlands have been adversely affected by grazing, thus reducing their capacity for natural regeneration and their nature conservation interest, particularly in the Clun Hills.
- Agri-environment schemes to support woodland maintenance and restoration have seen some positive uptake, and by 2011 some 47 km of fencing had been erected to protect woodlands.

Boundary features

- Previous amalgamation of smaller fields into larger units, with removal of boundaries, has disrupted the historic field patterns.
- The estimated length of boundaries in the area is about 3,367 km. Between 1999 and 2003 Countryside Stewardship capital agreements for linear features included fencing (123 km), hedge management (93 km), hedge planting and restoration (51 km), and restored boundary protection (49 km). In 2003, within the Environmentally Sensitive Area (ESA), the extent of annual agreements for hedgerow restoration supplement was 27 km. By 2011, under Environmental Stewardship, some 700 km of hedgerows were under management, along with 21 km of ditches and 1.5 km of stone walls and stone walled hedge bank.

Agriculture

- Sheep are the prevalent livestock within this area followed by cattle then pigs. All livestock numbers fell during the period 2000–2009, with sheep seeing the most significant reduction.
- Agri-environment schemes are helping to reverse some of the historically high levels of grazing, mostly by hill sheep that have reduced the condition of upland habitats.
- In 2003 the most extensive annual Countryside Stewardship agreements were for lowland pastures and regeneration of species-rich-grassland. Within the ESA scheme, there were agreements for extensive management of permanent grassland and rough grazing (3,479 ha), and reversion of improved grassland to extensive permanent grassland (1,120 ha).

Settlement and development

- As a relatively remote area, development is limited, although there have been some unsympathetic conversions of redundant farm buildings, predominantly to residential use.

Semi-natural habitat

- Ancient wood pasture and parkland is present throughout the area. A fine example is Brampton Bryan Park SSSI. In 1918, about 3 per cent of the area was historic parkland. By 1995 it was estimated that 33 per cent had been lost. However, agri-environment schemes have been used to provide management and restoration with approximately 53 per cent of the remaining parkland covered by a Historic Parkland Grant, and about 19 per cent included within an agri-environment scheme.

- The tree disease Phytophthora has become widespread in the area and could have a significant impact on alder trees.

- A significant proportion of upland heath has been reclaimed for agriculture. Rhos Fiddle is the most extensive remaining area. However, smaller areas of both upland and lowland heath remain, often in areas of common land. The heathland is dominated by heather but cross-leaved heath and bilberry also occur, with extensive areas of bracken and grassland present.

- Flood plain grazing marsh is an increasingly rare habitat, and there are several important sites within the NCA.

Historic features

- There are several Scheduled Monuments within the NCA, of which Offa's Dyke, in the north-west and at Little Selley, is identified as being 'vulnerable' due to natural erosion. Other sites such as Turret and Lyonshall castle are identified as being at risk from scrub / tree growth.

- There has been a high rate of survival of farmsteads, with 69 per cent recorded from late 19th-century maps retaining more than half of their historic footprint.

- Above 20 per cent of listed working buildings have obvious signs of structural disrepair, and 10-20 per cent with visible adaptive re-use.[4]

Coast and rivers

- The River Teme SSSI is classified as 'Unfavourable No Change'. This is due largely to physical modifications to the channel, in addition to siltation and diffuse pollution that affects the optimal functioning, as habitats for characteristic wildlife communities.

- The River Clun SAC is classified as 'Unfavourable Declining'. The main reason for this is the unnaturally high levels of sediment, nutrients and water pollution within the catchment.

- Modifications to some large sections of rivers such as the River Lugg and River Teme have resulted in straight wide channels and the construction of weirs.

[4] West Midlands Farmstead Character Statement, English Heritage (accessed March 2014; URL: https://www.english-heritage.org.uk/publications/wm-area-farmsteads-character-statements/98-Clun-NW-Hereford-Hills.pdf)

Drivers of change

Climate change

- Climate change is likely to result in more frequent and more intense periods of heavy rain that may cause more flooding events, along with the potential for de-stabilisation of steep banks, increasing soil erosion and affecting riverine habitats.

- Summer droughts may lead to an increase in water demand for crops, increased fire risk, and wider impacts on the landscape as a whole.

- A changing climate, in particular summer droughts, is likely to increase the vulnerability of the woodlands particularly the ancient semi-natural woodland with veteran trees increasingly vulnerable to damage, pest and disease.

- A longer growing season potentially leads to new crops, double cropping and cropping moving further up the hillside.

- A requirement for increased renewable energy may result in more cultivation of biomass crops. Short rotation coppice and miscanthus could potentially be accommodated on lower slopes and along broader valley bottoms.

Looking north from Edenhope Hill.

Other key drivers

- Ancient and other broadleaved woodlands are important habitats distributed throughout this NCA. There are a number of threats to woodland, including disease, climate change and lack of management.
- Tree diseases such as Phytophthora could have a significant impact on alder trees, while ash die-back disease could potentially have a significant impact on some of the mixed woodland as ash is a common and characteristic tree species of the NCA.
- Restoration of plantations on ancient woodland sites is a high priority and there are a significant number of these within the NCA.
- Increased pressure for food security may result in arable expansion threatening areas of permanent grassland, semi-natural grassland and meadow. This may result in further loss of ecologically valuable habitats and fragmentation of networks, as well as impacting on species movement / adaptation and species loss. Agri-environment schemes can offer opportunities to work with land managers to incorporate management of farmland habitats, to develop and create networks of new habitats and enhance the rural character of this landscape.
- There is residential development pressure on all small towns, with some unsympathetic conversion of redundant farm buildings. There is likely to be continued demand for housing, tourism and business development, especially around Clun, Bishop's Castle and Kington, which could help keep rural communities viable.
- Levels of traffic, especially by road and air, are increasing. This is the major source of intrusive noise, resulting in a gradual erosion of tranquillity. Due to the remote nature of the area car ownership levels are higher than the national average.
- Potential for wind farm development in this area may have an impact on the landscape.
- Partnership working at a landscape scale is ongoing to deliver benefits for a full range of habitats and species through the strengthening of ecological networks and the maintenance and restoration of habitat. Cross border partnership working such as the River Teme Restoration Plan and the Shropshire Hills AONB Management Plan will drive forward conservation projects within this NCA.

Bracken management on Hergest Ridge, here traversed by the Offa's Dyke National Trail.

Supporting document 3: Analysis supporting Statements of Environmental Opportunity

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

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

Landscape parks are found throughout the NCA, such as at Brampton Bryan and Croft Castle; here, Brampton Bryan park is captured with its scattered ancient trees in unimproved pasture, supporting nationally rare lichens and insects.

Statement of Environmental Opportunity	Ecosystem Service																		
	Food provision	Timber provision	Water availability	Genetic diversity	Biomass provision	Climate regulation	Regulating water quality	Regulating water flow	Regulating soil quality	Regulating soil erosion	Pollination	Pest regulation	Regulating coastal erosion	Sense of place / Inspiration	Sense of history	Tranquillity	Recreation	Biodiversity	Geodiversity
SEO 1: Protect, manage and enhance the open, expansive upland habitats of the Clun to ensure that they are healthy and contiguous, contributing to landscape character, protecting the important species, improving the soil and water resources that they support, and contributing to the tranquillity and recreation opportunities in the area.	↔ **	↔ *	↔ **	↗ *	↗ *	↗ ***	↗ ***	↗ ***	↗ ***	↗ ***	↔ *	↗ **	o	↗ ***	↔ **	↗ ***	↗ ***	↗ ***	↗ **
SEO 2: Protect, manage and enhance the valleys, to improve the habitat mosaic of semi-natural grasslands, meadows, woodlands, hedgerows and riparian habitats within the mosaic of improved pasture to enhance ecological networks, strengthen the distinctive landscape character and contribute to the delivery of ecosystem services such as food provision, wood supply, soil protection and improving water quality.	↗ ***	↗ ***	↗ ***	↗ **	↗ ***	↗ ***	↗ ***	↗ ***	↗ ***	↗ ***	↗ *	↗ **	o	↗ ***	↗ ***	↔ ***	↗ ***	↑ ***	↔ **
SEO 3: Protect and manage the rivers Teme, Clun and Lugg and associated watercourses, along with their flood plains, wetlands and woodlands, to maintain high water quality and enhance their nature conservation interest, to strengthen their contribution to landscape character, to help reduce the potential risk of flooding both within the NCA and downstream, and to increase the recreational opportunities they provide for public enjoyment.	↔ **	↔ **	↑ **	↔ **	↔ **	↗ ***	↑ ***	↑ ***	↗ ***	↗ ***	↔ ***	↔ *	o	↗ **	↔ **	↔ **	↗ **	↗ ***	↔ **
SEO 4: Conserve and enhance the area's distinctive historic environment, cultural heritage and nationally important geological sites, demonstrating how the interaction of natural and historic factors has influenced the distinctive character of its landscape and settlement patterns, and use as a framework for sustainable development and habitat restoration and to maintain and promote the enjoyment of its high levels of tranquillity and landscape.	↔ ***	↔ ***	↔ ***	↔ **	↔ *	↔ *	↔ **	↔ **	↔ **	↑ ***	↔ **	↔ *	o	↗ ***	↗ ***	↔ ***	↗ ***	↔ **	↔ **

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

National Importance; Regional Importance; Local Importance

Landscape attributes

Landscape attribute	Justification for selection
Sparsely populated rolling upland hills on the Anglo-Welsh borders, cut through by narrow wooded river valleys which widen to the east and merge into pastoral lowland.	■ The area comprises two distinctive geological regions as result of earth movements along the Church Stretton Fault which runs diagonally south-westwards through the NCA. Though broadly contemporary in age the rocks either side of the fault are significantly different in nature and landscape expression. The rolling blocks of rounded hills separated by ice enlarged valleys of the Clun Forest area in the north-west contrast with the dip-and-scarp topography to the south-east. ■ The valleys widen to significant flood plains where pastoral agriculture is the predominant land use. ■ On the lower slopes there is generally a locally distinctive pattern of large fields cut by small streams, often with drifts of streamside woodland. ■ There has been little modern development in the area and the rural character has been maintained. ■ This quiet rural area, containing the southern part of the Shropshire Hills Area of Outstanding Natural Beauty (AONB), is only an hour from Birmingham and Black Country conurbation yet retains a very tranquil and undisturbed nature.
A moderately well-wooded landscape with the heads of the narrow valleys deeply incised with woodland and, from Clun eastwards, large conifer plantations extending over the undulating hill tops.	■ The heads of the valleys are narrow and deeply incised with woodland on the steepest slopes giving a distinct 'sense of place'. ■ The central steep-sided wooded hills of the Clun Forest support areas of ancient woodland and form an important feature of the area. ■ The Clun Forest once covered an area that stretched from Ludlow up the Clun Valley. Believed to have retained substantial woodland until Elizabethan times, now only scattered remnants survive, although a fairly large area of forest exists on the Wales–England border north of Anchor (the planted Ceri Forest). ■ This area is of importance for ancient semi-natural woods of several types, notably upland oak wood, mixed broadleaved woodland with ash, hazel and elm, and wet woodland. Conifer forests cover a large proportion of ancient woodland sites in the area but as areas of broadleaves often remain they still support important species such as goshawk, dormice and bat species. ■ Downton Gorge Special Area of Conservation (SAC) comprises a ravine forest of small-leaved lime and large-leaved lime, together with ash, hazel and elm and is considered to be one of the best examples of this habitat in the UK. ■ Large blocks of conifer plantations with their straight boundaries, often on ancient natural woodland sites, jar with the rolling landforms of the area. ■ The Clun Valley woodlands are the county stronghold for dormice, a European protected species. ■ The woodlands form a resource at high risk from climate change and inappropriate management. The most wooded areas on the hills have an important role in slowing water movement through the catchment and into the rivers.

Landscape attribute	Justification for selection
South-east flowing rivers which are notable for their water quality and associated riparian habitat.	■ The narrow river valleys create a distinctive lowland landscape to the south-east of the Herefordshire Hills. ■ Most of the rivers are in a relatively natural state and are thus of geomorphological interest for the range of physical features associated with them. However, modifications to some large sections of rivers such as the River Lugg and River Teme have created straight wide channels, with some construction of weirs. ■ The River Teme is a Site of Special Scientific Interest (SSSI) for its important flora, fish and invertebrate fauna, which includes priority species such as twaite shad, sea lamprey, Atlantic salmon, otter and white-clawed freshwater crayfish. ■ The River Clun SAC is designated in part for its populations of freshwater pearl mussel, supporting one of the last populations in England and Wales. ■ The River Lugg is designated SSSI for its important flora, invertebrate fauna, and its population of white-clawed freshwater crayfish and otter are of special interest.
Irregular field patterns in valleys and around settlements contrasting with large rectilinear fields on higher ground, bounded by hedgerows, with hedgerow trees more common in Clun and Unk valleys.	■ Field boundaries are predominantly low hedgerows which with correct management form important habitats for a diverse range of species. ■ Hedgerows and hedgerow trees, especially in the Clun and Unk valleys, provide important corridors between woodland sites for invertebrates, birds, bats and dormice. ■ On the flood plains hedgerows are locally intermittent and sparse, with few hedgerow trees. ■ Around farmsteads, hamlets and villages the filed pattern is dense and irregular. ■ The generally regular pattern of large fields on the lower slopes and along broader flood plains is a product of later planned enclosure up to the mid-19th century.
Welsh settlement pattern of isolated farmsteads, small fields and Welsh farm names in uplands contrasting with nucleated villages, castles and English and anglicised names in valleys.	■ The area is tranquil, with a distinctive rural settlement pattern of small hamlets and villages connected by quiet country lanes. ■ Development pressures have been low and thus the historic integrity of settlements has largely been retained. ■ Farmsteads and small hamlets lie in the upper valleys just below the exposed hill tops and above the flood plains. ■ Planned late 11th to 13th century settlements in lower valleys are often strategically sited at river crossings and range from planned boroughs such as Bishop's Castle and Clun to linear-plan villages with church and / or castle. The major market centre of Kington on the River Arrow developed from the 13th century. ■ Small manor houses are frequent, often associated with a home farm and near the medieval mottes that they succeeded.

Landscape attribute	Justification for selection
Landscape parks, developed on ancient sites such as medieval deer parks, are found throughout the eastern area.	■ The greatest conservation interest is found in the surviving medieval deer parks where scattered ancient trees are found in a matrix of unimproved pastures. Key sites include Brampton Bryan, Croft Castle and Walcot Hall parkland. ■ Veteran trees, an important feature of parklands, support important assemblages of epiphytic lichens, mosses and invertebrates, some of which are nationally rare, are particularly important for the insects associated with dead wood. ■ Brampton Bryan Park SSSI is of national importance for its invertebrates and lichens, and also contains heathland dominated by heather and gorse, an uncommon habitat in Herefordshire. ■ Landscape parks also contain architecture dating from the medieval period to early 18th century.
Limited semi-natural habitats, such as species-rich grasslands, heath, ancient woodland, parkland and river systems, found dispersed within a matrix of predominately pastoral landcover.	■ There are three internationally designated sites – Downton Gorge SAC, River Clun SAC, and the River Wye SAC. ■ There are over 6,000 ha of priority habitat, totalling 10 per cent of the NCA area. Almost two thirds (63 per cent) of this is lowland mixed deciduous woodland, and there are also wet woodland and upland oak wood habitats. ■ Several important sites of marshy grassland are found here, including Upper Welson Marsh, Byton and Coombe Moors and Moseley Common. These contain species such as bogbean, marsh arrowgrass and marsh helleborine, and birds such as snipe, curlew and redshank. ■ Neutral grasslands, managed as hay meadows or permanent pasture, are found mainly in the south-east, an important resource of a habitat which is nationally declining. ■ There are several areas of high value acid grassland, including Bircher Common and Croft Ambrey, which are important for the high brown fritillary. The area is also important for purple moor-grass and rush pasture habitats. ■ Most hill tops are rough grazing or pasture for sheep and cattle but there are areas of unenclosed land, particularly in the Clun Uplands, which support habitats including rough grassland, bracken, scrub and heathland, with some unimproved hay meadows. ■ Locally rare plants such as heath cudweed and deergrass, and birds such as the stonechat and whinchat, occur on the heaths. ■ The black darter is associated with the acidic pools in the heathland. Rhos Fiddle SSSI is the most extensively remaining area of upland wet heath in the NCA. ■ Standing open water is rare, and the sites of most importance are Flintsham and Titley Pools which provide refuge for birds such as widgeon, teal and water rail.

Landscape attribute	Justification for selection
A strong sense of history and historical land use, settlement and old buildings.	■ The area is rich in evidence of historic settlement which contributes to the areas sense of place and history. ■ The area holds a large number of historic features, from Offa's Dyke to iron-age hill forts, castles and the conical mounds of mottes and planned boroughs on the area's eastern edge. ■ There are 132 Scheduled Monuments, 10 registered parks and gardens covering 1,288 ha and 1,102 listed buildings, reflecting its extensive historic resource. ■ There is a high concentration of timber-frame buildings dating from medieval period to early 18th century. Local sandstone, including the greyish Silurian sandstone in the west, is the predominant building material for 18th and 19th century buildings, and is often given a thin coat of render or limewash. ■ 69 per cent of farmsteads recorded from late 19th century maps retain more than half of their historic footprint. The area has a high survival of 17th century and earlier timber-framed houses, while 69 per cent of farmsteads recorded from the late 19th century retain more than half their historic footprint.
A tranquil and accessible area that offers many opportunities for quiet enjoyment of nature.	■ Tranquillity is a significant feature of the NCA with 97 per cent classified as 'undisturbed' and is considered one of the most tranquil areas in England. ■ The upland moors in the west give a rare sense of wildness and tranquillity. ■ Relatively low levels of noise and inappropriate development combine with modest visitor numbers to create an unspoilt quality that is greatly valued throughout the area. ■ The NCA offers an extensive network of rights of way and open access land, including the Offa's Dyke National Trail. ■ There are a number of other local trails such as the Herefordshire Trail, Mortimer Trail, Shropshire Way and Jack Mytton Way. ■ The southern area of the Shropshire Hills AONB covers 45 per cent of the NCA.

Landscape opportunities

- Conserve the diversity and integrity of geological and geomorphological features and enhance their value for interpretation, education and visual amenity.
- Protect and manage the ancient semi-natural woodlands and associated habitats occurring across the area, particularly in the central area and across the Clun Hills. Plan for the expansion, buffering and increased connectivity of woodland and unimproved grassland habitats, developing access and interpretation where appropriate.
- Conserve ancient and veteran trees within historic parklands, former wood pasture, in field boundaries, and in the wider landscape for the benefit of fauna and flora that depend upon them and for their heritage value. Replant and replace fallen and decayed ancient and mature trees to maintain landscape character, sense of place and enhance biodiversity.
- Conserve, manage and enhance the mosaic of moorland and grassland habitats, including open moorland, species-rich pastures, hay meadows, improved grassland and flower-rich road verges. Protect these habitats from further fragmentation, seeking opportunities to link habitats.
- Protect, manage and enhance the rivers Clun and Teme as a characteristic riverine landscape, rich and diverse in riparian habitat that supports a wide range of flora and fauna. Plan for the anticipated higher frequency of flood events and higher levels of winter rainfall through the restoration of traditional flood meadows, expansion of riparian habitats around the river corridors to include wet grassland and other flood plain habitat including wet woodland.
- Retain, restore, manage and plant new hedgerows, replacing hedgerow trees where necessary and managing field boundaries in traditional local styles, to enhance landscape character and improve habitat connectivity.
- Protect the fertility of the soils in the valleys and flood plains to retain their productivity, and ensure the ongoing viability of farming in the area, using sustainable land management and farming methods to retain soil fertility and structure, and catchment sensitive farming approaches to protect the watercourses from sedimentation and excess nutrient levels.
- Protect and conserve the high open moorland areas in the west with their sense of remoteness and panoramic views. Manage access to minimise impacts on the most sensitive sites and habitats, and develop interpretation to allow people to enjoy the tranquillity and general accessibility of the area.
- Expand opportunities for recreation and enjoyment of nature, particularly along the river valleys, linked by sustainable transport networks and manage the existing access network of rights of ways and cycle routes and plan new links, particularly between urban areas on the boundary of the NCA and the wider countryside.
- Protect, enhance and improve interpretation of the historic features in the landscape ranging from the buried archaeology of the prehistoric to Roman periods, the medieval settlements, structures and field systems and later examples of agrarian land use and industry for their educational, cultural and historic significance.
- Protect the area's strong rural character, lack of intrusion and high levels of tranquillity.

Ecosystem service analysis

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Food provision	Mixed livestock Pasture Arable Traditional orchards	Agricultural land in the NCA is classified as: Grade 1 – < 1 per cent Grade 2 – 9 per cent Grade 3 – 41 per cent Grade 4 – 35 per cent Grade 5 – 10 per cent. Sheep and beef are the main enterprises with smaller amounts of arable and fruit growing. The dominant agricultural land uses are grass and uncropped land, accounting for 71 per cent of the total farmed area, with cereals, oilseeds and other arable crops accounting for 26 per cent. Food provision is an important service within this rural area with livestock farming, particularly sheep, and cattle, making a significant contribution to local and regional food resources, and with strong and thriving local farmers markets. Traditional apple, cider apple and damson orchards, dispersed throughout the area, also form part of the agricultural activity of the area.	Regional	Livestock production is the mainstay of agricultural activity, supporting employment, economy and the maintenance of semi-natural habitats. It is also closely linked to many of the cultural aspects such as the sense of place, sense of history, biodiversity and heritage assets. Many current (2014) agri-environment agreements will soon expire with some level of uncertainty about what proportion will go forward into new schemes. This potentially may lead to a significant change to the way in which the land is managed in the future.	Work with the local farming community to safeguard future food production while enhancing other ecosystem services such as biodiversity, water and soil quality, pollination services, genetic diversity, and reduction of flood risk and soil erosion. Maximise the opportunities to utilise the local and regional markets, developing stronger branding for locally produced food thus maintaining and strengthening farming and its associated cultural landscapes and wildlife it supports. Provide good quality advice and support to farmers and landowners to secure enhanced soil and water quality, working with livestock farmers to minimise pollution entering watercourses. Support volunteer, community initiatives working to support thriving farms and communities, balancing the environment and biodiversity of the area, providing advice on farming, land management, nature conservation, planning, woodland and water management.	**Food provision** **Climate regulation** **Genetic diversity** **Regulating soil erosion** **Regulating soil quality** **Biodiversity** **Sense of place/ inspiration** **Sense of history**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Timber provision	Existing broadleaved woodland Extensive conifer plantations	Fifteen per cent of the NCA is woodland, much of it broadleaved woodland on steep sides of upper valleys. Large conifer plantations occur alongside or interlocking with remnant ancient semi-natural woodlands.	Local	Conifer plantations have the potential to release a single crop of timber allowing reversion to broadleaved woodland. This is particularly significant where conifers have been planted on ancient woodland sites, and where there is potential to restore valuable semi-natural habitats. Dead wood is an important component to retain in semi-natural woodlands in terms of biodiversity (fungi, lichen and invertebrates) as well as nutrient cycling and soil formation. New or improved opportunities for recreation may result from active management of existing woodlands.	Promote sustainable woodland management practices, such as coppicing, pollarding, and rotational wood fuel production, to increase carbon storage and sequestration, and to improve the resilience of woodlands to climate change. Seek to support the local community and other land managers to bring under-managed woodlands into production, to provide a local source of timber, enhance biodiversity and the cultural landscape, and promote and strengthen community engagement. Expand woodland cover, including conifer woodlands where appropriate, in line with West Midlands Woodland Opportunities mapping.[5]	**Timber provision** **Recreation** **Regulating soil erosion** **Climate regulation** **Regulating water flow**

[5] West Midlands Woodland Opportunities http://www.forestry.gov.uk/website/forestry.nsf/byunique/infd-6n4gzu Forestry Commission (accessed April 2014)

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Water availability	Rivers and streams High rainfall	The main rivers in the NCA are the Teme, Clun, Lugg and Arrow and the River Teme is the second largest tributary of the River Severn. The main uses of water in the catchment are for public water supply and agriculture, with very little industrial use. There are no underlying major aquifers.	Regional	Groundwater sources are closely connected to surface water resources, and an assessment of their availability has been included within that of the surface water resources below. There is 'no water available' from surface or groundwater sources in this NCA. The resource availability of the River Teme and its tributary the River Clun was originally assessed as having 'water available'; however, this has been overridden to 'no water available' in order to protect flow levels downstream in the River Severn.[6] The rivers Lugg and Arrow, crossing the south of the NCA, also have 'no water available'.[7] Water infiltration and storage is supported by the areas of semi-natural habitat including woodland and heathland, as well as areas of grassland and permanent pasture. Land management practices are important to improving soil structure, water infiltration, and storage of surface water run-off. For example, it is important to minimise compaction and / or risk of capping on wet soils in the uplands from over-grazing, trafficking and other mechanised activities. While many land managers already use environmentally sensitive practices, there is scope to encourage further measures to protect water supplies.	Restore and enhance semi-natural habitats such as broadleaved woodlands, wetland habitats and other riparian habitats to improve water infiltration and increase flood storage capacity, while also reducing flood risk and soil erosion, improving water quality, and creating habitat networks and ecosystem resilience to climate change. Support measures to maintain and improve soil structure to increase permeability and water retention potential. Slow the flow of water across the landscape to maintain more constant river levels through the use of ponds, scrapes and more naturalised drainage throughout the NCA. Identify opportunities to reinstate hedgerows across steeper slopes that will help to slow the cross-land flow of water. Identify suitable locations and work with landowners to realise opportunities for creating winter water storage areas and new wetland habitats where possible. Support measures that harvest and conserve water, protect watercourses, and prevent water quality deterioration caused by diffuse pollution and rapid run-off.	**Water availability** **Climate regulation** **Regulating water quality** **Regulating water flow** **Regulating soil erosion** **Food provision** **Biodiversity** **Geodiversity**

6 Teme Catchment Abstraction Management Strategy, Environment Agency (September 2005)
7 Wye Catchment Abstraction Management Strategy, Environment Agency Wales (March 2008)

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Genetic diversity	Clun Forest sheep Hereford cattle Rare and traditional breeds used for conservation grazing	Clun Forest sheep and Hereford Cattle are on the approved list of UK native breeds at risk. Rare breeds are used across the semi-natural habitats of the NCA for conservation grazing, for example Hebridean sheep and Highland cattle are kept on Rhos Fiddle SSSI.	Regional	The Clun Forest is a breed of upland domestic sheep originating from the Clun Forest area. They are a multi-purpose animal, kept for meat, wool, and milk, and produce quality lamb and mutton. The breed was first recorded in 1803 and in 1925 the Clun Forest Sheep Breeders Society was formed. Hereford cattle originated in the county in the 18th and 19th centuries and have subsequently spread worldwide as a universal beef breed. Maintaining rare breeds is important for food security and for maintaining genetic diversity. Hardy, adaptable rare breeds can also aid future land management through conservation grazing. This will help to maintain a sense of place and increase biodiversity.	Promote the use of native breeds to conserve not only the native genetic resource but to also provide conservation grazing to restore and maintain semi-natural habitats. Encourage the development of market and supply chains for local meat produce from native breeds.	**Genetic diversity** **Food provision** **Biodiversity** **Sense of place/ inspiration** **Sense of history**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biomass energy	Existing woodland	Existing woodland covers some 15 per cent of the area. There is medium potential yield for miscanthus in the north of the NCA, increasing to high potential in the south, around Wigmore and Kington. There is medium potential yield for short rotation coppice (SRC) across most of the NCA, but there is low potential yield in the hills in the north-west. For information on the potential landscape impacts of biomass plantings within the NCA, refer to the tables on the Natural England website.[8]	Local	There is some potential for increased biomass energy production as a by-product of timber production, and also by bringing existing woodlands into more productive management, particularly tradition coppice management of deciduous woodland, which would provide wood fuel. Much of the deciduous woodland in the area is on steep valley sides making it unviable for commercial biomass production. Converting conifer plantations to deciduous woodland would generate some short-term supply of biomass. The introduction of miscanthus or SRC would have to be in suitable locations that would not compromise other interests.	Bring existing woodlands into management, including coppicing, to produce wood fuel for local use. Seek opportunities to plant energy crops close to existing areas of woodland to increase biomass production while minimising impacts on other services and assets to maintain the overall character of the landscape.	**Biomass energy** **Timber provision** **Climate regulation** **Regulating soil erosion** **Regulating soil quality** **Biodiversity**

[8] Opportunities and optimum sitings for energy crops, Natural England (accessed December 2010; URL: www.naturalengland.org.uk/ourwork/farming/funding/ecs/sitings/areas/098.aspx)

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Climate regulation	Existing woodlands Upland heath Flood plain grazing marsh Purple moor-grass Wood pasture and parkland Permanent pasture Soils Hedgerow network and hedgerow trees	Existing woodland cover is 15 per cent and this contributes to the sequestration and storage of carbon and through tree growth and the underlying humus-rich soils. There is generally a low soil carbon content of 0 to 5 per cent in soils across the NCA. However the upland hills in the north and west contain 5 to 10 per cent, where the freely draining acid loamy soils over rock (8 per cent of the area of the NCA) and the slowly permeable wet very acid upland soils with a peaty surface (2 per cent) have organic and peaty soils which are valuable stores of soil carbon.	Local	Peaty and humus-rich soils afford a significant carbon storage function and are a priority for conservation. These soils are associated with the areas of upland heath, purple moor grass, and woodland. When these habitats are in good biological condition the vegetation can assist in the build-up of organic material and the sequestration of carbon from the atmosphere. Climate change that results in warmer drier summers could cause peat soils to dry out and thus be vulnerable to oxidation and subsequent loss of carbon, as well as affecting the vegetation. Ensuring wetland habitats and grassland are under good environmental land management so that they sustain carbon-rich soils and their role in sequestering and storing carbon is therefore important. Woodland, wood pasture and parkland, permanent pasture and other semi-natural habitats also retain carbon, an increased proportion of which would be released through microbial action if the soil was ploughed and exposed to air. The greater the area of well connected, good quality habitat, the more resilient the landscape will be to the impacts of climate change and other pressures.	Seek opportunities to conserve and enhance upland heath through sustainable land management practices. Ensure appropriate hydrology and vegetation cover, to prevent the loss of carbon into the atmosphere, to improve the ability of this habitat to sequester increased volumes of carbon, and make more resilient to climate change effects. Encourage sound management of existing woodlands and plantations to improve their role in capturing carbon. Expand and seek to create new woodland sites where appropriate to increase the potential for sequestering carbon. Support the restoration and creation of new wetland habitats and expand winter water storage capacity where possible, creating areas with high carbon storage potential as well as limiting flood risk. Work with the farming community to ensure they have adequate access to soil analysis to enable the calculation of appropriate levels of fertilizer inputs to reduce energy wastage and benefit water quality.	**Climate regulation** **Biodiversity** **Regulating water quality** **Regulating water flow** **Regulating soil quality** **Regulating soil erosion** **Sense of place/ inspiration**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water quality	Fast-flowing streams and rivers Areas of semi-natural habitats: Upland heath Upland calcareous grassland Flood plain grazing marsh Woodlands Permanent grassland Hedgerows High rainfall	The rivers in this NCA generally have 'good' ecological status. The chemical status of the majority of river lengths 'does not require assessment', although the River Lugg has 'good' chemical status. Groundwater chemical status in the NCA is also 'good'.[9] The entire NCA lies within one of Defra's priority catchments. Priorities in the River Teme catchment, overlapping the northern half of the NCA, are to reduce the impact of grazing and overwintering livestock on water quality; to minimise the impact on watercourses from point-source farmyard pollution; and reduce soil and nutrient run-off from intensive grassland and cultivated fields. Priorities in the River Lugg catchment, overlapping the southern half of the NCA, are to reduce run-off from farmyards and fields and to keep livestock out of watercourses.[10] The River Teme is designated as Sensitive Waters (susceptible to eutrophication) under the Urban Wastewater Treatment Directive.[11] Phosphate pollution of rivers from point sewage treatment works and diffuse sources (agriculture) threatens the ecological status.	Regional	Problems with water quality are currently thought to derive from agricultural sources, contributing to approximately 60 per cent of nitrates, 25 per cent of phosphates and 70 per cent of sediments entering surface waters, among other pollutants which are all having a significant detrimental effect on water quality. [12] Other threats to water quality include sedimentation as a result of erosion and damage to the soils both in and outside of the area; diffuse pollution from agriculture, particularly run-off of manure, fertiliser and chemicals, along with poor stock management infrastructure, overgrazing and stock access to watercourses resulting in severe bankside erosion (exacerbated by Phytophthora disease affecting alder trees and leading to bank instability), and natural changes to river morphology. Erosion can also be caused by die back of invasive species such as Himalayan balsam and Japanese knotweed. Surface water run-off from roads can also contain a wide range of pollutants, for example oil, organic matter and toxic metals. A recent study showed where woodlands could actively contribute towards the objectives of the Water Framework Directive, by improving water quality and helping to reduce flood risk in the Midlands.[13]	Work with farmers and landowners to raise awareness, supporting and maintaining best practice in water quality management including managing grazing regimes and stocking rates; targeted applications of organic matter and fertiliser; maintenance of farm infrastructure; and adopting appropriate cultivation and cropping practices. Work in partnership with existing groups such as Land Life and Livelihoods (LLL) and across sectors to deliver Water Framework Directive objectives, supporting catchment based initiatives and supporting measures identified in the River Teme diffuse water pollution plan. Work with landowners, in particular in the River Teme Sensitive Waters catchment, to reduce point-source pollution emanating from poor farm infrastructure and access of livestock to watercourses. Work with water companies and private sewage treatment works to identify and replace failing infrastructure and research and implement innovative approaches to waste management, for example the creation of reed beds to filter waste. Maintain flow levels in watercourses by managing abstraction so as to avoid over abstraction. Encourage management and expansion of woodlands to contribute to reducing soil erosion, improving water quality and reducing flood risk. Expand the network of semi-natural wetland habitats adjacent to watercourses including flood plain grazing marsh, fen and reedbeds; the creation of grassland buffer strips; and the restoration of hedgerows across slopes within river catchments, particularly the River Teme and River Lugg priority catchments, to reduce the amount of sediment run-off entering the rivers. Support actions to reduce the impacts on water quality arising from pesticides including metaldehyde (slug pellets). Control invasive non- native species particularly along the riverbanks to reduce soil exposure and erosion of the bank. Manage riverside trees to prevent collapse of pollards and coppice stools, and replace lost riverside trees where appropriate, but avoiding heavy shading along long sections of watercourses.	**Regulating water quality** **Water availability** **Regulating soil erosion** **Regulating soil quality** **Recreation** **Biodiversity**

[9] Severn River Basin Management Plan, Annex A: Current state of waters, Environment Agency (December 2009)
[10] Catchment Sensitive Farming priority catchments: River Teme, River Lugg Natural England and Defra http://www.naturalengland.org.uk/ourwork/farming/csf/cgs/prioritycatchment.aspx (accessed April 2014)
[11] River Teme SSSI Diffuse Water Pollution Plan, Natural England and Environment Agency (2010)
[12] Herefordshire Local Development Framework Outline water cycle study, Technical Report (URL: www.herefordshire.gov.uk/docs/wcs_redacted_text_only(1).pdf)
[13] West Midlands Woodland Opportunities http://www.forestry.gov.uk/website/forestry.nsf/byunique/infd-6n4gzu Forestry Commission (accessed April 2014)

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow	Natural meandering river and stream channels Fast-flowing rivers and streams within narrow valleys with flood plains Wooded valleys High rainfall across a large catchment	The River Severn Catchment Flood Management Plan classifies this NCA as having a 'moderate' level of fluvial flood risk.[14] This is largely associated with the River Teme which has a narrow flood plain with steep sides, and where water levels are highly variable. Over time the physical form of the River Teme has been altered in places by the construction of weirs, flood banks, and the straightening and protection of banks. These modifications tend to disengage the river from its flood plain.[15]	Regional	The Teme has a big upstream catchment in an area of high rainfall entering a narrow steep-sided valley. There is limited flood storage capacity within the narrow flood plain, further exacerbated by modifications to the river channel which have disconnected it from the flood plain. Settlements, usually at river crossing points (natural constrictions in the channel), are at risk of flooding. Conversely in summer months, low flows are experienced, exacerbated by licensed abstractions. This can impact on the ecological quality of the river and associated habitats. A recent study showed where woodlands could actively contribute towards the objectives of the Water Framework Directive, by improving water quality and helping to reduce flood risk in the Midlands.[16] The improvement of soil structure and management of good vegetation cover would enhance rainwater infiltration, reduce run-off rates and increase rates of groundwater recharge through permeable soils. The sensitivity of the local riverine ecology to flow variations (that is their vulnerability to abstraction impacts) in the River Teme is 'high' within this NCA.	Encourage best practices in land-use and in land management to restore more sustainable natural flood plains, improve infiltration of rain water and reduce run-off. Encourage and support opportunities for woodlands to contribute to reducing soil erosion, improving water quality and reducing flood risk. Slow run-off by encouraging the planting of strategically located deciduous woodland, repairing eroded channels and tracks and cross-slope cultivation. Seek opportunities to restore, create or increase semi-natural flood plain habitats such as flood plain grazing marsh, wet woodland, reedbeds and boundary features that impair cross land flow rates and aid infiltration of rain water and water storage.	**Regulating water flow** **Regulating water quality** **Regulating soil quality** **Regulating soil erosion** **Sense of place/ inspiration** **Biodiversity** **Geodiversity**

[14] River Severn Catchment Flood Management Plan, Summary Report, Environment Agency (December 2009)
[15] River Teme Restoration Plan Newsletter, Natural England, Environment Agency and Countryside Council for Wales (November 2012)
[16] Midlands woodlands for water project, Phase1, Final Report, Forestry Commission (2013) URL: http://www.forestry.gov.uk/pdf/MidlandsReport.pdf/$FILE/MidlandsReport.pdf

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil quality	Soils Deciduous woodland cover Unimproved pastures Semi-natural habitats	There are seven main soilscape types in this NCA: ■ Freely draining slightly acid loamy soils, covering 68 per cent of the area. ■ Slightly acid loamy and clayey soils with impeded drainage (8 per cent). ■ Freely draining acid loamy soils over rock (8 per cent). ■ Slowly permeable seasonally wet acid loamy and clayey soils (6 per cent). ■ Loamy and clayey flood plain soils with naturally high groundwater (6 per cent). ■ Slowly permeable wet very acid upland soils with a peaty surface (2 per cent). ■ Freely draining flood plain soils (1 per cent).	Regional	The freely draining slightly acid loamy soils are permeable and allow for the recharge of groundwaters where good structural conditions are maintained, which, helped by the addition of organic matter, aid water infiltration. Matching of nutrients to needs is also required, to prevent groundwater pollution. The slightly acid loamy and clayey soils with impeded drainage may have weak topsoil structure and are easily poached by livestock and compacted by machinery when wet. Careful timing of activities is required to reduce the likelihood of soil compaction. Equally, the slowly permeable seasonally wet acid loamy and clayey soils are easily damaged / compacted when wet, which increases the risk of diffuse pollution and flooding as a result of poor water infiltration. These soils may have limited potential for increasing organic matter levels by management interventions. The amount of semi-natural habitat and tree cover means that much of the soil is maintained in good condition. However, where the soil is under continuous agricultural use, measures to maintain and improve the soil quality will be needed to safeguard and retain productive food provision in the long term and increase the soil's resilience to climatic change and extreme weather events.	Ensure that the management of the pastures and meadows will encourage the build-up of organic matter, for instance through more extensive grazing regimes. Work with the farming community to achieve appropriate stocking regimes which avoid poaching and reduce erosion. Support measures which increase the volume of organic matter within worked soil to improve soil structure and conditions for soil fauna, increasing water infiltration.	**Regulating soil quality** **Regulating water quality** **Biodiversity** **Food provision** **Sense of place/ inspiration**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil erosion	Hedgerows and buffer strips Woodlands, wood pasture and scrub Semi-natural habitats and permanent grassland	Around 84 per cent of the area of this NCA has soils at risk of soil erosion. The different soil types are explained above. Woodland, which covers 15 per cent of the area, helps bind the soil to reduce erosion, especially on steeper slopes. Semi-natural habitats and permanent grassland also reduce soil erosion and hedges, copses and woodland belts are effective at reducing wind erosion.	Regional	The dominant freely draining slightly acid loamy soils have enhanced risk of soil erosion on moderately or steeply sloping land where cultivated or bare soil is exposed, which is exacerbated where organic matter levels are low after continuous cultivation or where soils are compacted. There is the potential for wind erosion on some coarse textured cultivated variants. The slightly acid loamy and clayey soils with impeded drainage (8 per cent of the NCA) are prone to compaction and capping / slaking, which increases the risk of soil erosion by surface water run-off, especially on steeper slopes. The freely draining acid loamy soils over rock (also 8 per cent) are often found on steep land over which rainfall will flow, with inherent risk of erosion. By comparison, the slowly permeable peaty soils (2 per cent) are at risk of gullying / hagging and loss of particulate organic matter where surface vegetation is damaged or lost. Drainage of these soils, for example through gripping, may also result in increased oxidation of carbon and soil wastage.	Work with landowners to produce sustainable systems of arable cultivation and well managed livestock to reduce poaching and soil exposure, particularly on the steeper slopes, using measures such as expanding areas of permanent grassland and woodland, introducing hedgerows and buffer strips across steeper slopes, and restricting access by livestock to watercourses. Support opportunities to strengthen the hedgerow network and increase the population of hedgerow trees across the flood plain of the River Teme, which will help to filter out soils in time of flood, as well as providing habitat networks and strengthen landscape character. Support measures which increase the volume of organic matter within the soil to improve soil structure and conditions for soil fauna, increasing water infiltration.	**Regulating soil erosion** **Water availability** **Biodiversity** **Food provision** **Regulating water quality** **Regulating water flow** **Sense of place / inspiration** **Biodiversity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pollination	Woodland Upland heathland Upland calcareous grassland Lowland grasslands and meadows Wood pasture and parkland Traditional orchards Hedgerows	There are areas of unenclosed land, particularly in the Clun Uplands, which support a range of habitats including rough grassland, bracken, scrub and heathland. While fruit production from the orchards is dependent upon pollinating insects, orchards also provide good habitats for them. The areas of species rich neutral grassland, acid grassland and marshy grassland, purple moor-grass and rush pasture (over 300 ha) provide nectar sources for pollinating insects.	Local	Woodland and heathland will support a diverse range of pollinating invertebrates and where it is adjacent to certain food crops can assist with pollination. There is real scope to improve the availability of nectar sources in this NCA through the good management and extension of heathlands, grasslands and wetlands as well as good hedge and margin habitats. This would have positive benefits for fruit production from the orchards, as well as enhancing wider biodiversity and landscape character.	Enhance the habitats benefitting pollinating insect populations by protecting existing areas of heathland, unimproved grasslands and scrub, and extending them where possible. Support the introduction of nectar and forage mixes in arable land, and manage and expand areas of species-rich grasslands and leys. Maintain and enhance the floristic diversity of hedgerows and verges, where possible, to increase the range of flowering plants, and increase the area and range of habitat mosaics making connections between existing sites attractive to pollinators.	**Pollination** **Biodiversity** **Sense of place/ inspiration** **Regulating soil erosion** **Regulating soil quality** **Climate regulation**
Pest regulation	Woodlands Unimproved grasslands Upland heathland Wetlands Lowland grasslands and meadows Hedgerows	The areas of neutral grassland, acid grassland and marshy grassland, purple moor-grass and rush pasture (over 300 ha) provide habitats for pest regulators.	Local	This NCA provides a wide range of habitats for species that contribute to the regulation of pests as there is a relatively good network of habitats amid the arable production. Fragmentation and breaks in the network of habitats may limit the movement and effectiveness of predatory species.	Enhance and expand the network of semi-natural habitats that supports predator species and aids their movement, bringing benefits for pest regulation as well as pollination and biodiversity.	**Pest regulation** **Pollination** **Biodiversity** **Regulating soil erosion** **Regulating soil quality** **Regulating water quality**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place / inspiration	Deeply tranquil rural undulating landscape Small wooded narrow river valleys and wetlands Steep-sided, shallow domed hills of Clun Forest Dip-and-scarp topography further north in Wenlock Edge in Shropshire Hills Small and scattered villages Hill forts and castles Welsh settlement pattern Isolated farmsteads in western uplands Ancient wood pasture and parkland High moorland Shropshire Hills Area of Outstanding Natural Beauty (AONB)	The area has a strong isolated secluded character, and just under half is designated as Shropshire Hills AONB. Sense of place is provided by the intricate rural rolling, rounded upland landscape and the small wooded narrow valleys of the River Clun, River Teme and tributaries. Senses of inspiration and escapism are associated with the panoramic views across the plateau and long vistas along valleys with their parklands, castles and hill forts, unified by extensive woodland cover. Ancient woodlands offer high levels of tranquillity and contrast with the pastoral farming throughout the area. The area has literary associations with Sir Walter Scott. In the cycle of poems 'A Shropshire Lad' the poet A. E. Housman describes Clun as 'the quietest place under the sun'.	National	The landscape of the Clun and North West Herefordshire Hills continues to provide inspiration for many people particularly as a place steeped in history with a wealth of wildlife and peaceful tranquil places. Development and change has been relatively low in the Clun and North West Herefordshire Hills. However the landscape can be affected by small cumulative changes, for example modern development pressures. These and the increased traffic on the few main roads that cross the area have had an effect on the dynamics of this distinctive rural landscape.	Maintain the contrast between the open, bare-topped uplands and the more intricate landscape of the intervening valleys with the variety of field boundary patterns and woodlands on slopes and in valleys. Maintain and restore wood pasture and parkland and hedgerow trees that provide a wooded feel. Maintain and restore unimproved grasslands along river valleys. Maintain the dispersed settlement pattern with a range of buildings built in local stone and timber framing, together with historic parklands and their designed landscapes. Maintain and protect historical features including hill forts, and castles.	**Sense of place/ inspiration** **Sense of history** **Geodiversity** **Recreation** **Biodiversity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of history	132 Scheduled Monuments 1,102 listed buildings 10 Registered Parks and Gardens, and other historic parklands Offa's Dyke National Trail Traditional buildings and structures, particularly bridges across the River Clun and Teme Fortified Norman churches 11th to 13th-century settlements such as Bishop's Castle and Clun Medieval castles and villages Traditional farmsteads	There is a significant amount of historic interest within the NCA. The 132 Scheduled Monuments include Bury Ditches which is considered one of the best preserved hill forts in Britain. The Registered Parks and Gardens cover 1,288 ha, and fine examples include Brampton Bryan and Croft castle. Popular with walkers, almost 32 km of the Offa's Dyke National Trail cuts through this NCA. The bridge crossing the River Clun is a 'stone packhorse bridge' dating from 1450. Despite its age it carries the modern A488 and B4368 roads. In the hamlets and villages, the sturdy Norman churches emphasise the border character of this seemingly undisturbed settlement pattern. Settlements are dispersed, with just under 15 per cent of farmsteads in hamlets and 13 per cent in villages. There is a high rate of survival of traditional farmsteads, with 69 per cent retaining more than half of their historic footprint. Over 20 per cent of listed working buildings have obvious signs of structural disrepair; while between 10 and 20 per cent have visible adaptive re-use.	Regional	Lying on the English/Welsh border in a tranquil and mostly undeveloped area, the area is rich in historic assets, including barrows, iron-age hill forts, iron-age settlement sites, defences notably Offa's Dyke and fortified Norman churches, medieval castles such as Clun and Hopton, and motte and bailey sites, along with farmsteads, towns and villages, and parklands. These features have survived in a landscape which has seen much less change than many parts of the country. However many of these heritage assets are fragile and highly susceptible to loss or damage due to direct impacts or inappropriate management. Much below-ground heritage may remain undiscovered or unexplored in this undeveloped area, and care should be taken not to unnecessarily disturb or damage buried heritage assets. The range of features present in the area allows for study of past human activity, informing current land management. Emphasis should be placed on the need to continue to protect and interpret the wealth of heritage present. Good land management and increasing public awareness will contribute to the conservation of the many historic features.	Protect the wealth of historic features, including Offa's Dyke, hill forts, burial mounds, motte-and-bailey castles, parklands, field boundary patterns, historic farmsteads and other vernacular buildings. Maintain the integrity of the settings of key historic landmarks, such as Kington and Bishop's Castle, parklands such as Brampton Bryan and Croft Castle and designed landscapes. Encourage take-up of agri-environment schemes to maintain and restore traditional farm buildings. Encourage the adoption of sustainable soil management, minimal cultivation and arable reversion to protect buried archaeology.	**Sense of history** **Sense of place/ inspiration** **Geodiversity** **Biodiversity** **Recreation**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Tranquillity	Deep tranquil rural landscape Historical villages Ancient woodland Distinctive tree-lined watercourses Topography	Tranquillity is a significant feature of the NCA, with 97 per cent of the area classified as 'undisturbed' (a decline of only 2 per cent from 99 per cent in the 1960's) according to the CPRE Intrusion Map 2007. The area remains largely unaffected by development apart from the northern edge of Knighton, Kington and around the settlements of Craven Arms and Ludlow in the west, along with the A49. The wooded river valleys, open uplands and pastoral lowlands remain undisturbed and tranquil, and the dark night skies remain a very important asset in the area.	National	Much of the area remains undeveloped, uncluttered and free from recent development. Some detraction from the overwhelming sense of tranquillity has arisen due to developments along the periphery but the more difficult upland topography and remoteness of the area has ensured development has had very little impact on tranquillity levels. Changes in agricultural practices also have little impact on the landscape and levels of tranquillity, and the scale of farm businesses is often limited by the confines of the valleys.	Protect the area from inappropriate development and infrastructure that would detract from the sense of remoteness and tranquillity of the area. Promote the use of measures that reduce noise and light pollution and visual intrusion in new and existing developments. There are opportunities to conserve the sense of remoteness and 'wildness', particularly along the wooded valleys. The sense of tranquillity should be enhanced where opportunities arise through the removal of obtrusive features, such as signage, lighting, overhead lines and poles.	**Tranquillity** **Sense of place/ inspiration** **Sense of history** **Biodiversity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Recreation	Offa's Dyke National Trail Rights of way network Regional trails Ancient and semi-natural woodland Historic and geological features Rivers and other waterways Regional cycling Routes Mountain biking Shropshire Hills AONB	There are significant opportunities for recreation here, with 6,149 ha (10 per cent) of the area classified as being publicly accessible. This includes 32 km of Offa's Dyke National Trail which traverses the NCA north – south in the west. Recreation is supported by over 966 km of rights of way (with a density of 1.6 km per km^2) and 1,407 ha (over 2 per cent) of Open Access land. Other regional routes include the Jack Mytton Way, the Shropshire Way, the Mortimer Trail, the Herefordshire Trail and the Black and White Village trail which links those villages characterised by half-timbered houses and cottages. Regional cycling routes lie to the north-east and to the south-west of the NCA such as Radnor Ring. The terrain of the area makes it attractive for cross-country mountain biking and downhilling. Hopton has been home to National and Regional downhill races and includes some cross country trails. The waterways offer a range of recreational opportunities from fishing, river walks to more sedate pastimes such as painting, drawing and photography.	National	Recreation connects people with the landscape and promotes a sense of wellbeing. This tranquil, rural landscape is popular with walkers and cyclists and encouragement of quiet enjoyment is something to be encouraged. However there is a need to balance recreation with the impact it can have on historic, geological features and biodiversity and also tranquillity which is slowly being eroded by more transport and visitors to the area.	Maintain and enhance opportunities for access throughout the area. Continue to implement the aims of the Rights of Way Improvement Plans for Shropshire and Herefordshire. Ensure visitor pressure is managed within the NCA to enhance the visitor experience and alleviate the pressures on well-known sites. Support the AONB in encouraging tourism businesses to take a sustainable approach and encouraging visitors to do likewise.	**Recreation** **Sense of place / inspiration** **Sense of history** **Geodiversity** **Biodiversity**

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity	3 Special Areas of Conservation (SAC) 24 Sites of Special Scientific Interest (SSSI) 234 sites of local wildlife interest Priority habitats: Rivers and tributaries Ancient and semi-natural woodland Flood plain grazing marsh Wood pasture and parkland Upland calcareous grassland Purple moor-grass and rush pasture Upland heath Lowland grassland Traditional orchards	Together designated sites, local wildlife sites and priority habitats cover over 10 per cent of the area. Priority habitats include mixed deciduous woodland, wood pasture and parkland, flood plain grazing marsh, upland heathland, upland calcareous grassland, purple moor grass and rush pasture, and a range of other habitats. Rivers play an important role in the NCA. The three main rivers that occur in the area are the River Teme (SSSI) and its tributary the Clun (SAC), which are part of the Severn catchment, and the River Lugg (SSSI), which flows into the Wye. The Teme is designated for its important flora, fish and invertebrate fauna, including species such as twaite shad, sea lamprey, Atlantic salmon, otter and white-clawed freshwater crayfish. The River Clun SAC forms part of the River Teme SSSI and is designated for freshwater pearl mussel, supporting one of the last populations in England and Wales. The River Lugg SSSI populations of white-clawed freshwater crayfish and otter that are of special interest. Clun Valley woodlands are county strongholds for dormice, a European protected species. Ancient wood pasture survives, for instance at Brampton Bryan Park SSSI where dispersed ancient trees in unimproved pasture support nationally rare lichens and insects such as scarlet longhorn beetle and high brown fritillary.	National	The NCA's high value for biodiversity is reflected in the large proportion of the area that is protected through national and international nature conservation designations. The River Clun SAC is one of only three rivers in England designated as a European Special Area of Conservation for freshwater pearl mussel, but the population has experienced a dramatic decline in recent decades. The Shropshire Hills AONB and community groups provide active support delivering action to bring about positive change in the Clun catchment. Areas of semi-natural habitats are dispersed and could be better connected. Improved management, connectivity, restoration of hydrological systems and promotion of sustainable grazing regimes and uptake of environmental incentives would all enhance the biodiversity value as well as improve regulating services and contribute to enhanced sense of place. The improvement in the condition, and expansion, of heathland and other semi-natural habitats will also assist in climate regulation through the storage of carbon. Increases in habitat extent could also have a positive effect on water quantity, water quality, soil erosion, which would in turn benefit production of food. The presence of obstacles, such as weirs in the River Teme SSSI limits the distribution of salmon and other fish within the catchment. There are few areas of standing open water within the NCA, and of most importance are Flintsham and Titley Pools which provide a refuge for wildfowl such as wigeon, teal and water rail.	Support the Teme Catchment Partnership as the mechanism to implement the River Teme SSSI Restoration Plan, delivering positive restoration measures, and helping to improve the condition of the SSSI. Manage and restore and where possible create new areas of upland heathland and calcareous grassland. Maintain the current extent of semi-natural and ancient woodlands. Introduce active management where possible and explore opportunities for expansion where appropriate[17] to enhance landscape character, recreation opportunities, biodiversity and for the benefits it can bring to soil quality and long term carbon storage and the reduction in diffuse water pollution. Support partnership working and community initiatives in Clun forest to care for supporting thriving farms and communities in balance with the environment and biodiversity of the area. Manage, restore and where possible create new areas of wood pasture and parkland, flood plain grazing marsh, lowland grassland. Use evidence to adopt and implement a landscape scale approach to habitat restoration, such as local work on biodiversity opportunity mapping and identification of priority areas in Herefordshire and Shropshire, to inform landscape scale projects and local development plans and decisions to improve connectivity of the fragmented habitats of woodland, upland heath, lowland meadow, wood pasture and parkland, benefiting biodiversity, sense of place and strengthening landscape character. Support the Shropshire Hills AONB project for freshwater pearl mussel conservation in the River Clun and support joint working through the Clun Catchment Partnership to co-ordinate and undertake practical action and raise the profile of work in the Clun Catchment.	**Biodiversity** **Geodiversity** **Sense of place / inspiration** **Sense of history** **Recreation** **Climate regulation** **Pollination** **Tranquillity**

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

Service	Assets/attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity	Geology, geomorphology and soils Local stone used in historic buildings and vernacular buildings	There are 10 Geological Conservation Review sites now designated SSSI and one SSSI (Downton Gorge) designated for both geodiversity and biodiversity interest. There are a further 70 Local Geological Sites. The diverse geology and geomorphology of the Clun and North West Herefordshire Hills has created its distinctive landscape and shaped the distribution of wildlife habitats and land uses. There are a significant number of quarries within the NCA. A very large quarry within Aymestrey – 'the Great Quarry' – produced much of the stone seen in the village. Quarries continue to operate at Hergan Hill and Leinthall Earls, quarrying Silurian stone. Sandstone and greyish Silurian sandstone are the predominant building materials for buildings of the 18th and 19th centuries, often rendered or lime-washed. Limestone and some calcareous shales have been used as local building stones. However, at Brampton Bryan and Pedwardine, igneous rock was used for building on the Harley (Brampton Bryan) Estate.	National	This is a very important area for geology as it is where much of the pioneering work that established the foundations of geology was undertaken. For example, the Mortimer Forest SSSI, which exposes rocks belonging to the Wenlock and Ludlow Series, is a global reference locality for the Ludlow Series. This importance is reflected in the 10 Geological Conservation Review sites in addition to the 70 Local Geological Sites, many of which are disused quarries. The link between the underlying geology and the form of the landscape is strong, and the influence on land use and the use of building stone contributes to the area's local character. The NCA is internationally significant for its geodiversity and is critical to geological research and learning, offering excellent opportunities for research, and thus furthering our understanding of geological and geomorphological features. This is particularly important for demonstrating the links between geology, ecology, archaeology and the socio-economic development of the area. Geological sites will sometimes need active management to maintain their value, such as controlling vegetation and tree growth. Sites which are well used for education and study may need active monitoring and liaison to ensure that damage, either deliberate or accidental, does not occur.	Seek to improve the condition of geological sites and raise public awareness of geology, geomorphology and soils, and their influence on the historic development of the landscape and human activity. Encourage the continued use of local stone in buildings to build on the sense of place and history. Encourage the public awareness of the past industrial heritage of the quarrying.	**Geodiversity** **Sense of place / inspiration** **Sense of history** **Recreation** **Water availability**

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