National Character Area profile:

145. Exmoor

Supporting documents

NATURAL ENGLAND

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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.

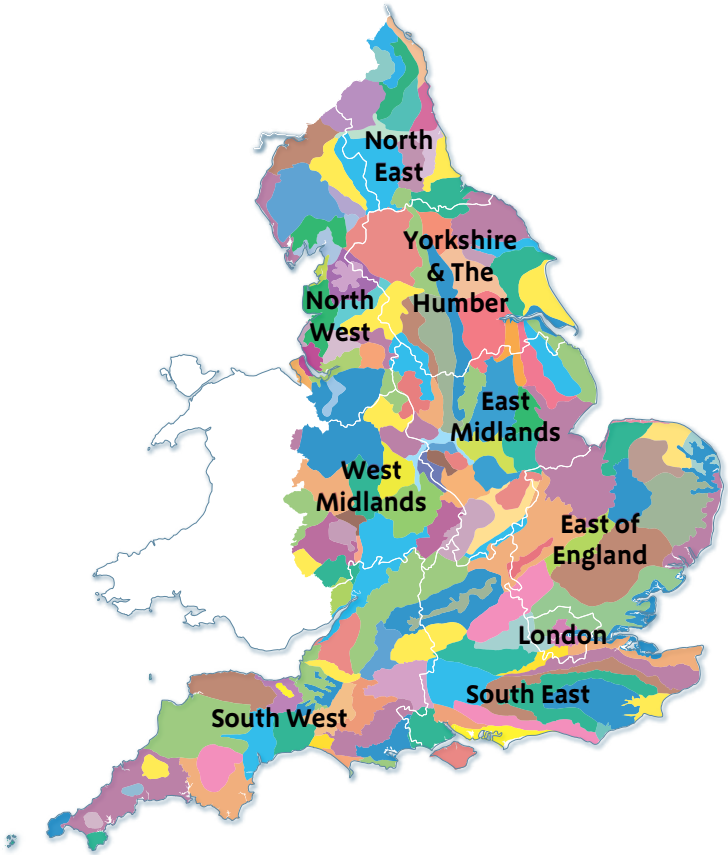
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and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

Exmoor National Character Area (NCA) is predominantly a landscape of upland plateaux of Devonian sandstones and slates terminating in the north at the Bristol Channel with a spectacular cliff coastline. It lies across the counties of Devon and Somerset. The Devonian geological time period was first described and recorded in association with this area. To the west the area terminates at Barnstaple/Bideford Bay and the Taw and Torridge Estuary and to the east at the Vale of Taunton Deane. The Exmoor area contains sparse settlement with centres at Braunton, Ilfracombe, Lynton and the western edges of Minehead, all associated with the coast, and inland at Barnstaple, Dunster, Dulverton and Bampton.

The entirety of Exmoor National Park lies within the area and accounts for over half of the NCA. A further 5.6 per cent is part of the North Devon AONB. Upland heath, blanket bog (Exmoor Heaths SAC) and upland sessile oak woodland (Exmoor and Quantock Oak Woods SAC) areas are recognised as internationally important, as is the largest area of sand dunes in England (Braunton Burrows SAC). Braunton Burrows also lies at the heart of the UNESCO North Devon Biosphere Reserve encompassing much of the western end of the area. 16 per cent (20,352 ha) of the NCA is designated as SSSI, for example Exmoor Coastal Heaths, Taw/ Torridge Estuary. The 'wildness' and remoteness of the upland landscape inspired the likes of R D Blackmore *(Lorna Doone)* and Coleridge *(The Rime of the Ancient Mariner, Kubla Khan)* and continues to inspire visitors and residents alike. Signs of 8,000 years of human occupation can be found in the landscape of the Exmoor area. In combination with a wealth of wildlife and many surviving traditions, this is one of the country's most important cultural landscapes.

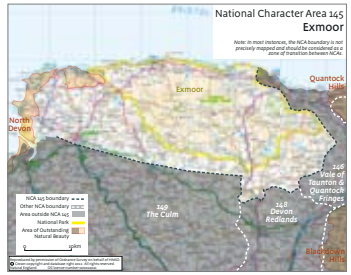
Statements of Environmental Opportunity

- **SEO 1**: Protect, manage and enhance the landscape of large areas of open, 'wild' moorland and Atlantic coast, and deep wooded combes, supporting internationally important habitats and species, helping to regulate water quality and quantity, storing carbon dioxide and protecting soil structure and water resources across the area.

- **SEO 2**: Protect and enhance the nationally important, highly distinctive and diverse landscape, the wealth of geodiversity, extreme tranquillity and dark skies, the rich cultural heritage and traditions, and inspirational qualities of the area that contribute to the attraction of the area for leisure, recreational and sporting activities.

- **SEO 3**: Plan for the effects of coastal change, allowing the operation of natural coastal processes and the creation of new habitats to maintain and enhance local coastal landscape character and biodiversity, and improve sustainability of current management practices, while reducing flooding of built areas and valuable productive land.

- **SEO 4**: Reinforce the distinctive character of the pastoral and mixed farmed landscape through a continuation of upland and other farming traditions supporting a wealth of biodiversity and cultural heritage.



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Description

Physical and functional links to other National Character Areas

The high hills of Exmoor Forest and the Brendon Hills form a backdrop to large portions of lower-lying western Somerset and mid and north Devon. Views from the higher hills and 'beacons' are extensive and impressive, in places as far as the south Wales coast. From the southern edge of Exmoor views across the Culm to Dartmoor NCA on the far horizon are of particular note. Even from lower vantage points, such as from Bats Castle above Dunster, views encompass coast, coastal plain, lowlands and uplands from the Quantocks to the east and Dunkery Beacon to the west and even extend as far as Hinkley Point on the edge of Bridgwater Bay. From the likes of Haddon Hill in the south-east of the area, Dunkery Beacon at the heart, and Higher Slade above Ilfracombe, 360 degree panoramas can be experienced taking in vast swathes of surrounding landscape.

The upland areas of Exmoor form the watershed for a number of watercourses. The River Exe flows southward from the area, fed by the Barle and Dane's Brook and continues south through the heart of the Devon Redlands NCA to Exeter and Exmouth. The River Tone rises in the east of the area to flow through Taunton and on to Bridgwater Bay, Vale of Taunton and Quantock Fringes NCA. Further west the rivers Yeo, Mole and Bray drain south and westward to feed the Taw.

The sand dune systems and estuaries of the Exmoor NCA are linked through the mechanism of sediment supply to the coastal and marine area, Land's End to Minehead, which is one sediment cell.

The coastline of the area provides important navigation and maritime reference points for vessels travelling along the Bristol Channel; Morte Point, Little and Great Hangman, Foreland Point, Culbone Hill, Porlock Bay and Selworthy Beacon.

Distinct areas

- Exmoor Forest and the central moorland
- North Devon plateau
- The Brendon Hills
- Porlock and Dunster Vales
- Braunton
- Taw/Torridge estuary

Wimbleball Reservoir with the pastoral landscape of the Brendon Hills beyond; a recreational resource and water supply for the city of Exeter.

Key characteristics

- A diverse upland landscape, rising abruptly out of the surrounding lowlands. Central high, treeless moorlands used for rough grazing, incised by steep wooded valleys and combes with occasional grass and arable fields.
- The underlying consistent geology of mid to late Devonian sandstones, slates and fissile mudstones (shale), underpin and give coherence to the entire area.
- Complex coastline of headlands, steep cliffs, waterfalls and coves with dramatic exposures of folded strata accessible via the South West Coast Path, a National Trail. It boasts the highest coastline, the highest sheer sea-cliff and the longest stretch of coastal woodland in England.
- The vast dune system at Braunton Burrows and Woolacombe, the rocky coast and sandy beaches, and the long shingle ridge at Porlock Bay are distinctive coastal geological and geomorphological features.
- The Taw/Torridge estuary with large areas of high quality saltmarsh, mudflats and sandbanks providing a rich source of food for overwintering and migratory waders visible from the higher plateaux and clearly defining the western boundary of the area.
- Acidic peaty soils on the moorland plateau give rise to tracts of heather, occasionally turning rich purple in late summer, blanket bog, grass heath and bracken.

Almsworthy Common; rectilinear moorland-edge enclosures with wind-sculpted beech-topped hedgebanks.

- 19th century farms and rectilinear moorland-edge enclosures with beech-topped hedgebanks and wind-sculpted standard beech trees and windbreaks. Elsewhere, older field patterns are defined by irregular hedges and stone walls. Medieval field systems occur across the area and are particularly notable at Braunton Great Field.

Key characteristics continued...

- Across the western plateau, fields of semi-improved rush pasture and arable of 19th-century origin are defined by closely trimmed hedges with occasional standard trees.

The village of Withypool, nestling in the sheltered Barle Valley in central Exmoor; simple whitewashed buildings contrast with the dark local stone exposed in the bridge and church.

- Villages and farmsteads nestle in sheltered valley bottoms often at river crossings. Buildings are mainly of local slate and shale rubble, sometimes whitewashed. A variety of local stone is used in the villages, along with cob and brick, with slate roofs. Scattered, often whitewashed farmsteads punctuate the western plateau.

- Woodlands, mostly ancient and oak-dominated, cloak the steep coastal combes and inland valleys. Ancient parks and more recent conifer plantations are features of the lower slopes.

- High archaeological interest from all eras of human activity. A particularly rich source of bronze-age monuments such as stone rows, stone settings and barrows. Notable industrial archaeology including quarrying, mining and iron working, lime burning and longshore fishing (fishweirs) from all eras.

- Red deer and Exmoor ponies, trout-filled, fast flowing, shallow rivers and streams over stony and pebbly beds.

Exmoor today

The Exmoor area is a predominantly upland landscape; an area underpinned by mid-Devonian sandstones, slates and fissile mudstones (shale) forming plateaux, hills and exposed in a dramatic coast of high cliffs and folded strata. To the east, the upland landscape of the former royal forest and the adjacent Brendon Hills forms a large open, windswept area, mostly devoid of settlement. Dunkery Beacon is the highest point at 513 m, and is a popular destination for visitors. The landscape is dominated by an internationally important mosaic of heathland plant communities, grass moor and blanket bog, where heath and high brown fritillaries can be seen. The moorland is deeply incised by combes containing fast-flowing rivers and streams, with sides blanketed in woodland, particularly sessile oak woods of international nature conservation importance.

The view from Countygate; a diverse upland landscape of moorland, steep wooded valleys and combes and occasional grass and arable fields.

This area is extensively grazed by cattle, Exmoor ponies and sheep, including the local breed of Exmoor Horn. To the west, extends a lower plateau of gently undulating hills, more intensively farmed, but still predominantly pastoral in character, and still windswept and mostly devoid of settlement. Spectacular coastal cliffs, some the highest sea cliffs in England, plunge to the sea where the plateaux abruptly meet the Bristol Channel.

The moorland slopes and some areas of former moorland are cloaked in places with conifer plantations, creating dark, rectilinear masses on the skyline. The remote and exposed heart of moorland is surrounded by a more intimate landscape of ancient and irregular, mainly pastoral, hedged fields. Away from the high moor, the western and eastern plateaux are characterised by a more regular pattern of enclosure and closely managed Devon hedgebanks where farmland birds such as skylark, yellowhammer and bullfinch can be seen and heard. The lower slopes and valleys are sparsely scattered with slate and sandstone farmsteads connected by winding, sunken lanes. Wind-pruned lines of beech, grown out from beech hedgebanks, extend up to the moorland edge and across the most exposed areas.

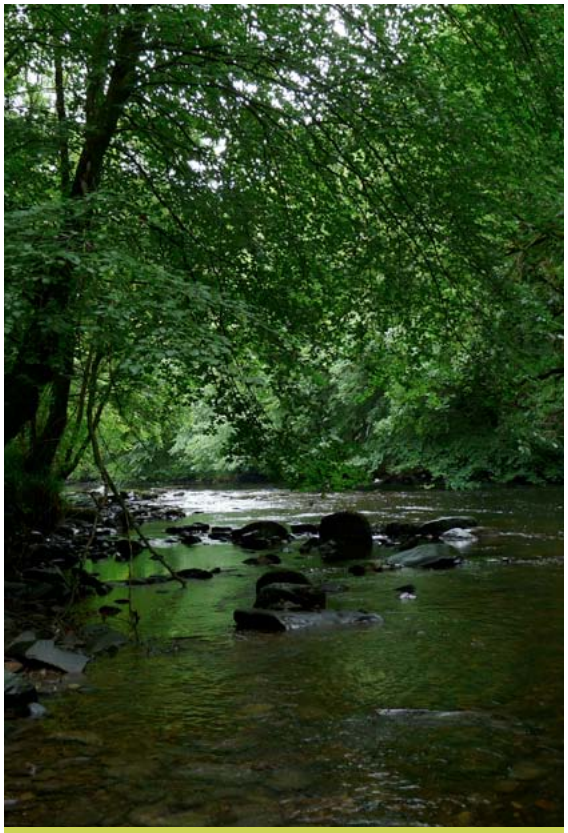
The transition to the gently rolling Culm landscape in the south is often marked by deeply sculpted valleys, such as the River Yeo valley. Further west the boundary to the area is defined by a line of hills terminating at the popular viewpoint on Codden Hill close to Barnstaple.

Water is an important element of the landscape; at times dramatic and active, at others calming and limpid. The central moorland is drained by two main river systems, the Exe, draining south into the English Channel and the Lyn, draining north into the Bristol Channel. Rivers and streams rise and fall rapidly. They present fast-flowing, natural and dynamic systems often with unstable, eroding banks. The ecology of the River Barle means it is considered the best example in Britain of an acidic upland river grading into a richer sandstone river. The lower reaches of the Barle are in deeply incised, meandering valleys, blanketed in oak woodland. Their picturesque and richly varied character is a major attraction for visitors.

The coast is dramatic, with scrub and heath-clad cliffs ending in rock exposures often of folded strata with waterfalls cascading down deep combes between sheltered coves. Much of the coast is remote and inaccessible with no landward access, steep and sheer and even rarely accessible from the sea, providing secure nesting sites for guillemots and razorbills. To the east of the area, land descends and flattens across the fertile vales of Porlock and Dunster, containing rich pasture fields and areas of arable cultivation. The 3 km-long, breached shingle ridge at Porlock Bay, backed by expanses of saltmarsh, is a prominent coastal feature. At the western edge the flat and fertile fields, grazing marsh and internationally important sand dunes beyond Braunton (Braunton Burrows) are in contrast with the rest of the area. Much of the vegetation and associated wildlife found along the coast, whether in the estuary landscapes of the Taw and Torridge or the sandy beaches or rocky cliffs, has a close association with the Atlantic oceanic climate.

Exmoor remains a tranquil landscape, with isolated rubble farmsteads of 18th and 19th-century origin and small settlements found around the edge of the moors, on lower slopes and in valleys, often at river crossings with stone bridges. Settlements along the coast vary in size and character, from the likes of the bustling resorts at Minehead, Combe Martin and Ilfracombe, to the town of Barnstaple at the mouth of the River Taw, and the smaller, historic and picturesque Lynton, Lynmouth and Porlock. The small harbours of Combe Martin, Lynmouth and Porlock Weir were once busy coastal trading posts. They are now more frequently used for recreational sailing and fishing. Inland, small, historic, and often vibrant local centres are found around the periphery of the area, including settlements such as Dulverton, Bampton and Braunton.

Most visits to the area are concentrated on the sandy beaches and coast particularly at Croyde and Woolacombe.



The lower reaches of the River Barle are deeply incised, meandering valleys, blanketed in oak woodland.

Many visitors to the area are attracted by the wealth of wildlife that can be experienced in a 'wild' and seemingly unchanging landscape, accessible through an extensive network of rights of way, open access land and trails, such as the South West Coast Path. Along with the rich array of invertebrates to be found, moorland birds, such as short-eared owl, skylark and meadow pipit, stonechat, whinchat, willow warbler, grasshopper warbler, Dartford warbler and cuckoo can be seen and heard. Rare plants, including bryophytes, ferns and lichens, and bats, notably barbastelles and Bechstein's bats, can be found in the ancient sessile oak woods along with pied flycatcher, redstart and wood warbler. The dune, beach and machair habitats of Braunton Burrows support a wealth of specially adapted plants and animals.

The landscape today clearly reflects the influence of man over millennia. Bronze-age barrows and stone circles form prominent features in the open moorland. The ancient farmland that surrounds the moor contains features such as old farmsteads, mills, leats, lime kilns and other small-scale industrial remains. The tradition of common grazing continues with free-roaming herds of wild Exmoor ponies closely associated with the moorland scene. The legacy of the medieval royal hunting forest lives on. Game shooting is a prominent influence on the landscape to the east of the area, particularly around the Brendon Hills. Exmoor's communities have a strong sense of identity and culture, and red deer, upland farming and remoteness remain at the heart of that culture.

Exmoor pony and foal; a regular and immediately recognisable feature of the Exmoor landscape.

The landscape through time

The Devonian sandstones and slates which underlie Exmoor were extensively and complexly folded and faulted during the Varsican earth movements about 300 million years ago. The Permo-Triassic rocks of the flat basin of the Vale of Porlock in the east contrast with the surrounding older hills of Devonian sandstone. The Devonian time period was first described in, and is named after Devon, partly based on the rocks found within this NCA. Devonian rocks abut the softer fissile mudstones (shales) and grits of the Culm Measures at the southern boundary of the area, creating deep, steep sided valleys forming the headwaters of the River Exe. Carboniferous slates, limestones and sandstones are found in the south of the area.

Sea-level rises and falls associated with the repeated growth and decay of ice sheets are recorded in the various raised beaches, such as those exposed at Croyde. This area is also renowned for a number of large glacial erratics, unique in south-west England, including one boulder of pink granite at Saunton that weighs 12 tons; the nearest outcrop of similar rocks occurs in western Scotland. To the west of the area, Quaternary deposits of wind-blown sand, alluvium and river terrace deposits have formed Braunton Marsh and Braunton Burrows, where important sand dune habitats are found. The 3 km-long coastal shingle ridge in Porlock Bay is an excellent example of a drift-aligned barrier.

Bronze-age clearance of the wooded landscape of Exmoor, which developed after the last ice-age, coupled with heavy rainfall and leaching, led to the formation of peat and blanket bog across the upland plateau. In turn, this gave rise to heathland used for common grazing. Evidence for extensive early occupation of the area is provided through scatterings of Neolithic remains and the survival of standing stones, stone rows, settings and circles, and barrows of the bronze-age; the Chapman Barrows linear cemetery being a fine and prominent example. Small iron-age hilltop enclosures and settlements overlook river valleys, such as Cow Castle in the Barle valley. The Roman period saw some exploitation of the areas around Brayford and Dulverton for iron working and the formation of prominent coastal forts and signal stations.

Rockham Bay, Mortehoe; the Devonian time period was partly defined through the study of rocks found within the area that can be seen in dramatic exposures at the coast.

The land surrounding the moor and across the western plateau has an agricultural heritage dating principally from the medieval period. Hedgebanks and boundaries, farmsteads, mills, leats and gutter systems, sunken lanes, and lime kilns are features of the landscape often dating from this period. Pastoral farming prevails across most of the western plateaux. Open fields in common cultivation were a feature of the coastal lowlands in the Middle Ages. Another feature of the coast and near shoreline is the number of disused lime kilns, preparing lime closest to the means of transport out of the area. Similarly, at Combe Martin the arisings from silver mining and manganese quarrying could be easily transported from the area by boat.

Braunton Great Field, survives today as an important example of this historic agricultural system. Water mills, constructed in the late medieval and early Tudor periods, exploited the energy and purity of the rivers and streams, fuelling and supporting the wool and cloth industries. Dunster watermill has recently been restored to full working order. Cider orchards were a common sight in valleys and more sheltered parts of the landscape. Cider played an important part in the local agricultural economy, often forming a portion of labourers' wages. Relict orchards are still present around settlements and farmsteads.

From the mid 11th century, most of Exmoor from Porlock to Bray and from Martinhoe to Dulverton formed the Royal Forest of Exmoor; an open hunting ground for medieval nobles. Forest law and successive Wardens of the Forest had a strong influence on the landscape, often, and sometimes inadvertently, maintaining traditions and features. A culture of hunting and game keeping is still strongly associated with the landscape.

The 18th and 19th centuries saw major changes to the moor, largely carried out by the wealthy Knight family. Over 10,000 acres (c. 4,050 ha) were enclosed after the passing of an Enclosure Act. Long, straight beech hedges were planted, which have now grown-out to form distinctive wind-pruned tree lines. Large tracts of rough moorland vegetation were 'improved' and drained for pasture. Model farms and estate buildings were introduced into the landscape. In many places regular fields, windbreaks and farmsteads linked by straight roads remain characteristic features of Exmoor.

The dominance of purple moor grass over heather in the Forest area of the moor is a legacy of these improvements, and those which continued through to the late 20th-century. Other 19th-century estates, including Holnicote, Ashley Combe, Glenthorne, Chargot, and Lee Abbey, helped to shape the character of the landscape, with new woodlands, parkland, estate cottages and unique estate details contributing a designed element to the landscape of Exmoor.

The agricultural improvement of the whole area continued throughout the 20th century, often resulting in the loss or fragmentation of important and fragile habitats, and placing considerable pressure on biodiversity in general. Through the 1960s the rate of moorland loss to agricultural reclamation and improvement ultimately lead to the Government commissioning Lord Porchester to report on the extent of change and the options open to the public authorities to address them. His recommendations on the use of voluntary management agreements have formed the basis for agri-environment policy across the United Kingdom. In places the planting of large-scale conifer plantations for timber production, in areas of moorland and ancient woodland, has further changed the landscape.

At the beginning of the 19th century the wild and rugged landscape of the Exmoor area was a major influence on the Romantic poets, Coleridge and Wordsworth, and subsequently an important influence on the Picturesque landscape movement. The same remote and wild spirit inspired R D Blackmore to write Lorna Doone. The landscape of Henry Williamson's novel Tarka the Otter was the landscape of the Taw and Torridge; an early introduction to natural history for many in the 20th century.

To the east of the Exmoor area, designation of the National Park in 1954 has helped ensure the conservation and enhancement of the landscape; acknowledged as being a key reason for the maintenance of its tranquil and remote character. North Devon AONB was designated in 1959 and has supported the conservation and enhancement of much of the dramatic coast and associated inland landscape to the west of the area. More recently, the internationally important habitats of ancient oak wood, the high Exmoor heaths and the maritime assemblages at Braunton Burrows, have been designated as Special Areas of Conservation.

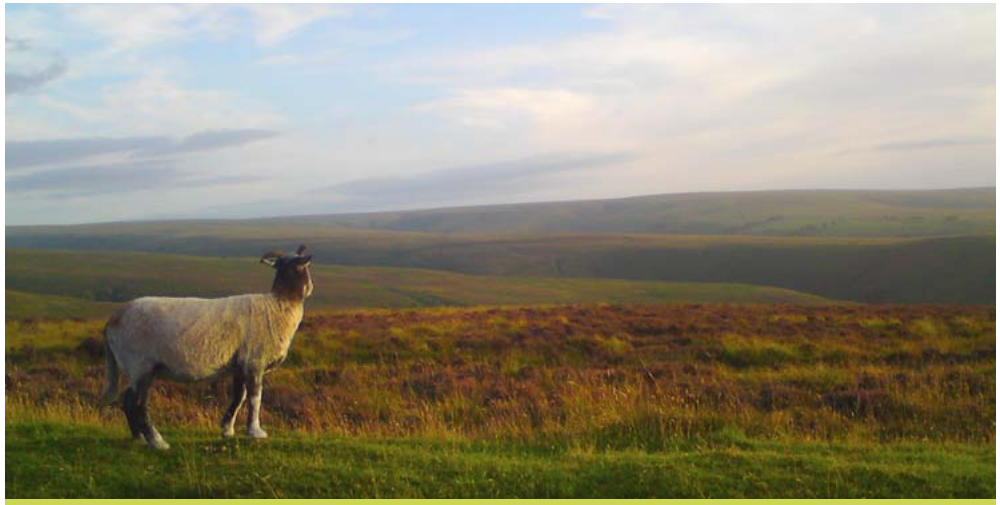
In the early 21st century, lifestyle changes and responses to a changing climate are leading to a further evolution of landscape character. Demand for energy crops, diversification from traditional agriculture and renewable energy initiatives are influencing the character of the landscape. The recently constructed wind farm at Fullabrook, north-east of Barnstaple is currently the largest in England. Suburban influences and small-scale development, altered boundary treatments, garden expansions and plantings, and overhead wires are small, but incremental changes seen more recently. Changes in livestock numbers have contributed to the 'scrubbing up' of the heather moorland in places.

Ecosystem services

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

Provisioning services (food, fibre and water supply)

- **Food provision:** A producer of store lambs and suckler calves with some beef and dairying. The area supported in excess of half a million sheep in 2009.



The Brendon Hills; an intensely tranquil place with uncluttered views and free, in most part, from major infrastructure, but a working, farmed and productive landscape.

- **Timber provision:** The main source of commercial timber from Exmoor is currently the conifer plantations on the upper moorland fringes, and some steeper slopes and valley sides. In total these plantations cover some 4 per cent of the area of this NCA. Some high-quality, specialist oak products are derived from the area.

- **Water availability:** Much of the area forms part of the upper Exe catchment with the peatland plant communities of the open moorland storing water and feeding the headwaters of a radial pattern of rivers. The Exe and its principal tributary the Barle flow south. On the western side of the NCA the rivers Yeo, Mile and Bray drain into the River Taw. The River Tone rises at Beverton Pond near the south-eastern edge of the area. This area provides a key source of water for the region, with the Wimbleball reservoir supplying Exeter and parts of East Devon by releasing water into the River Exe. The Clatworthy reservoir, releasing water into the River Tone being a major source of water for Taunton. Most of the area is classed as having water available for abstraction, although the eastern part of the NCA is classed as either over licensed or having no further water available for abstraction. The growth of Barnstaple in the west and Exeter to the south may place further pressure on the water resources of Exmoor.

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

- **Climate regulation:** Across most of the NCA, greenhouse gas regulation through carbon stored in the soils is relatively low (less than 10 per cent). The deeper peat soils, found across the extensive areas of blanket bog habitat, house significantly high volumes of atmospheric carbon, particularly along The Chains.

- **Regulating water flow:** Steeply sloping topography occurs across most of the area resulting in fast flowing rivers and streams often descending into constricted river valleys. This can present significant flood risk and particularly where settlements have been established in the lower reaches of river valleys. High rainfall or rapid snow melt on the moorlands, particularly when running over saturated or frozen ground, can result in hazardous flash floods that threaten settlements and infrastructure downstream. The flooding of Lynmouth in 1952, which resulted in a significant loss of life and damage to property, is a severe example. A pilot study in the Aller catchment is one of three national initiatives considering whole-catchment flood management. Mires may limit the rate of water flow from the upland areas.

- **Regulating coastal flooding and erosion:** The coast at Minehead is susceptible to coastal flooding. Analysis of the coastal processes and landforms at Porlock Bay and Braunton contribute to the understanding of the benefits that a naturally functioning coast can provide to maintain and enhance local landscapes, biodiversity, sustainability of current management practices and reduction of flooding to built areas and valuable, production land.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** A landscape and coastline that has offered great inspiration through the centuries and to the present day. The open moorland and exquisite diversity of landscapes, wildness and remoteness have stimulated romantic poets, Coleridge and Wordsworth, authors, R D Blackmore, painters and photographers.

- **Sense of history:** A landscape rich in archaeology, and particularly bronze-age remains (with standing stones, stone settings and rows, and barrows), with historic settlements, such as Dunster, and deep-rooted agricultural and coastal traditions and cultures.

- **Tranquillity:** An intensely tranquil place of dark skies (Europe's first International Dark Sky Reserve), uncluttered views and free, in most part, from major infrastructure.

- **Recreation:** With a National Park, AONB and 109 km of the South West Coast Path, the area is of great importance for tourism and recreation. There are also three National Nature Reserves providing and promoting access to important habitats and species found in the area. The variety of opportunity accommodates contemplative recreation and outward bound activities, such as upland walking, mountain biking and pony trekking. The coastal towns, such as Minehead and Ilfracombe, offer a more traditional seaside holiday with many visiting the area for its fine sandy beaches. Canoeing, surfing, shooting and bird-watching are all common and popular activities supported by the area.

Croyde Bay; a popular destination for visitors, holiday-makers and surfers. Seen from the South West Coast Path.

- **Biodiversity:** A wealth of habitats, from moorland and blanket bog to sessile oak woodlands and parkland, as at Arlington Court, and coastal cliffs, shingle ridges and extensive sand dunes, support an array of nationally and internationally important species. These include high brown, heath and, to a lesser extent, marsh fritillary butterflies, all species of British bat, rare lichen communities and an array of common and rare birds adapted to moorland, woodland, farmland and coastal conditions. The Atlantic, oceanic climate and lack of pollution further contribute to this diversity allowing for the development of sensitive lichens, mosses and bryophytes.

- **Geodiversity:** The ability to observe, record and interpret geological formations and geomorphological processes particularly along the coast, is an important contribution to education. The underlying geology of the area determines and influences many of the habitats and human activities found across the area.

Statements of Environmental Opportunity

SEO 1: Protect, manage and enhance the landscape of large areas of open, 'wild' moorland and Atlantic coast, and deep wooded combes, supporting internationally important habitats and species, helping to regulate water quality and quantity, storing carbon dioxide and protecting soil structure and water resources across the area.

For example, by:

- Resisting development that detracts from the 'wild', uncluttered, remote and highly distinctive character of much of the area, other than the development, renewal or maintenance of essential utility infrastructure necessary to meet regulatory, health and environmental targets and particularly in relation to water provision and flood management.
- Continuing to realise opportunities to restore, expand and improve links between moorland habitats (blanket bog, purple moor grass and rush pasture, mire and upland heath) achieving a strong and resilient ecological network as demonstrated through the Exmoor Mires initiative.
- Supporting and extending the range of internationally and nationally important assemblages of habitats and species by encouraging responsive and sustainable grazing regimes that improve the condition of vegetation, reduce 'poaching' of soils and aid water infiltration.
- Ensuring that moorland swaling (burning) and cutting programmes are sustainably managed and will maintain the open character of the landscape, promote structural and biological diversity as well as avoid loss of peaty soils, while ensuring these practices do not deplete the store of greenhouse gases through soil erosion or oxidation.
- Restoring degraded areas of blanket bog and expanding the area of blanket bog, introducing water management techniques (re-wetting moorland, reducing rapid run-off from over-used tracks, and blocking grips) and maintaining extensive grazing regimes to protect and improve soil structure and carbon storage capacity, and effectively manage water quality, availability and run-off.
- Managing existing broadleaved woodland for the benefit of biodiversity, particularly through the use of traditional woodland management techniques.
- Encouraging, where appropriate, the restoration of conifer plantations, at maturity, to open moorland or broadleaved woodland as appropriate, for the benefit of biodiversity and landscape character and to enhance the resilience of semi-natural habitats to the effects of climate change.
- Restoring planted ancient woodland sites (PAWS) to semi-natural woodland, allowing natural regeneration and encouraging traditional woodland management techniques.
- Restoring or creating wet woodland, where appropriate, along valley and combe sides, and along valley bottoms, particularly where this would reduce soil and nutrient run-off entering watercourses.

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SEO 1: Protect, manage and enhance the landscape of large areas of open, 'wild' moorland and Atlantic coast, and deep wooded combes, supporting internationally important habitats and species, helping to regulate water quality and quantity, storing carbon dioxide and protecting soil structure and water resources across the area.

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For example, by:

- Seeking opportunities to restore rivers to their natural courses where past engineering has taken place. Managing cultivation in vales and adjacent to watercourses to optimism water penetration. Reinstating permanent pasture adjacent to watercourses, through the vales and along narrow valleys.
- Seeking to enhance whole catchment water systems, from high moorland to discharge into the sea, improving water quality ensuring water availability, while reducing flood risk.

SEO 2: Protect and enhance the nationally important, highly distinctive and diverse landscape, the wealth of geodiversity, extreme tranquillity and dark skies, the rich cultural heritage and traditions, and inspirational qualities of the area that contribute to the attraction of the area for leisure, recreational and sporting activities.

For example, by:

- Managing and enhancing nationally important and locally characteristic Devonian, Carboniferous and Quaternary geodiversity, especially the inland outcrops and coastal exposures, improving access and interpretation where possible.
- Ensuring that the wealth of heritage assets found across the area are protected from inappropriate management activities, and are effectively and traditionally managed where necessary.
- Encouraging access to, interpretation and understanding of heritage assets by all sections of the community to enable better current and future management and planning of the environment. Delivering the purposes of the North Devon AONB and Exmoor National Park to conserve and enhance the natural beauty of the landscape.
- Resisting development in or around the most remote parts of the area that would add to intrusion and increased light pollution. Where new development is appropriate, plan for new and integrated landscapes that are informed by the existing high quality and distinctive landscapes increasing the area and networks of semi-natural habitats.
- Promoting access to the natural environment across the area; making the most natural, historic, inspirational and tranquil places available to all, particularly incorporating sustainable access to and from the South West Coast Path.
- Maintaining the presence of distinctive farmed and wild grazing animals, particularly Exmoor ponies, red deer, Exmoor Horn sheep, and Devon Red and Devon cattle.
- Promoting the careful management of relict orchards around settlements and farmsteads, including replanting using traditional varieties.

SEO 3: Plan for the effects of coastal change, allowing the operation of natural coastal processes and the creation of new habitats to maintain and enhance local coastal landscape character and biodiversity, and improve sustainability of current management practices, while reducing flooding of built areas and valuable productive land.

For example, by:

- Providing sufficient room for natural coastal processes to continue (particularly within the bays of Combe Martin, Porlock and Lynmouth, as well as the Taw/Torridge Estuary), with habitats extended and re-created further inland where appropriate.
- Implementing an education programme to explain to local communities and visitors coastal processes and change, and the role natural habitats play in protecting the land from future flooding.
- The expansion of existing habitats and the creation of new ones to include coastal and floodplain grazing marsh, saltmarsh, mudflats and sand dunes, and where possible coastal heath.
- Using sites where past sea level changes are displayed, for example the raised beaches between Croyde and Saunton, and important geomorphological processes, for example the creation of shingle bars and sand dunes to inform and understand future coastal realignment.
- Delivering the purposes of the North Devon AONB and Exmoor National Park to conserve and enhance the natural beauty of the coastal landscape.
- Supporting and developing sustainable economic, tourism opportunities that conserve and enhance the special qualities of the area.

SEO 4: Reinforce the distinctive character of the pastoral and mixed farmed landscape through a continuation of upland and other farming traditions.

For example, by:

- Reinforcing the rectilinear pattern of 19th-century beech hedgebank enclosures on the moorland edge and the ancient irregular pattern of fields bounded by hedges and stone walls defining the surrounding farmland, and protecting the open field systems at Braunton Great Field, reinforcing a clear sense of place and sense of history.
- Continuing and reinstating the coppice management and laying of hedgebanks to retain these important landscape features for the future (encouraging coppice residues to be used as a source of low-carbon fuel).
- Ensuring ancient hedgerow trees are retained off of the high moor and a new generation of hedgerow trees selected and protected from hedge-cutting.
- Maintaining the strong pattern of medieval boundaries for their major contribution to the landscape and biodiversity of the area, as well as assisting in the reduction of soil erosion and helping block cross-land movement of soils, nutrients and water.
- Continuing to provide food and support farming at a sustainable level with grazing levels that lead to improved soil quality, reduce soil erosion and benefit biodiversity.
- Increasing the amount of farmland managed under principles established by the Catchment Sensitive Farming initiative.

Additional opportunities

1: Manage recreational opportunities and improve opportunities to enjoy and understand the landscape, experience the 'wildness', inspiration, diversity and remoteness of the area.

For example, by:

- Maintaining and improving multi-user links between settlements, both in and near the area, and the open moor, wooded valleys, sheltered vales and the Heritage Coast, utilising and extending the existing network of public rights of way.
- Developing new permissive access to historical sites and other areas of interest as part of a cohesive network of inspiring access provision.
- Promoting sustainable tourism initiatives that target a broad range of visitors and reduce car dependency, accommodating high visitor numbers while conserving the landscape and its inherent tranquillity.

2: Plan for the creation of new landscapes around settlements on the periphery of the area.

For example, by:

- Planting new woodland, using native broadleaved species, between and within new developments to filter views and preserve the tranquillity of the area.
- Promoting the use of sustainable building design and construction, using traditional materials and styles wherever possible, incorporating renewable energy generation and water recycling technologies.
- Exploring of the role of short rotation coppice (SRC) and other biomass crops within the framework of new development; keeping fuel sources close to demand.
- Creating reed beds as part of developments to filter potentially polluted water before discharge to river or sea.
- Ensuring access opportunities and provision of natural green spaces, close to where people live, linked to wider multi-modal routes.
- Including school and community food gardens and orchards within the landscape framework and new developments, promoting the use of local Devon/Somerset varieties.

Supporting document 1: Key facts and data

Total area: 130,373 ha

1. Landscape and nature conservation designations

Over 52 per cent (68,235 ha) of the area is designated as National Park and a further 6 per cent (7,317 ha) lies within the North Devon Area of Outstanding Natural Beauty (AONB).

Management plans for the protected landscape(s) can be found at:

- www.exmoor-nationalpark.gov.uk/

Source: Natural England (2011)

1.1 Designated nature conservation sites

The NCA includes the following statutory nature conservation designations:

Tier	Designation	Name	Area (ha)	Percentage of NCA
International	Ramsar	n/a	0	0
European	Special Protection Area (SPA)	n/a	0	0
	Special Area of Conservation (SAC)	Exmoor Heaths SAC, Exmoor & Quantock Oakwoods SAC, Braunton Burrows SAC	13,129	10
National	National Nature Reserve (NNR)	The Dunkery & Horner Wood NNR, Hawkcombe Woods NNR, Tarr Steps Woodland NNR	1,736	1
	Site of Special Scientific Interest (SSSI)	A total of 33 sites wholly or partly within the NCA	20,352	16

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 769 Local sites in Exmoor NCA covering 9,759 ha which is 8 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 – select 'Designations/Land-Based Designations/Statutory'

1.2 Condition of designated sites

SSSI condition category	Area (ha)	Percentage of SSSI category condition
Unfavourable declining	162	1
Favourable	3,010	15
Unfavourable no change	1,236	6
Unfavourable recovering	15,792	78

Source: Natural England (March 2011)

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

2. Landform, geology and soils

2.1 Elevation

Elevation ranges from sea level (0 m) at the coast to a maximum of 513 m at Dunkery Beacon. The average elevation of the landscape is 236 m above sea level.

Source: Natural England (2010)

2.2 Landform and process

The Exmoor area is predominantly two plateaux incised to form whale-back ridges and steep combes. This form is a result of the underlying geology. To the south, deep, steep sided valleys form the headwaters of the Rivers Barle, Quarm and Exe.

Source: Exmoor Countryside Character area description

2.3 Bedrock geology

The solid geology of Exmoor consists almost entirely of mid-Devonian sandstones, slates and shales, with small amounts of limestone. Dramatic exposures of these strata, which were folded during the later Permo-Triassic Variscan Orogeny (mountain-building episode), are a feature of the north Devon coast. The Permo-Triassic rocks of the flat basin of the Vale of Porlock in the east contrast with the surrounding hills of Devonian sandstone. Devonian rocks abut the shales and grits of the Culm Measures along the southern boundary, creating deep, steep sided valleys forming the headwaters of the Barle, Quarm and Exe.

Source: Exmoor & The Quantock Hills Natural Area Profile, Exmoor Countryside Character area description, British Geological Survey maps

2.4 Superficial deposits

Braunton Marsh and Braunton Burrows in the west are defined by blown sand, alluvium and river terrace deposits. The 3 km long shingle ridge at Porlock Bay is a distinctive feature. The moorland core of the Exmoor plateau includes important deposits of peat.

Source: Exmoor & The Quantock Hills Natural Area Profile, Exmoor Countryside Character area description, British Geological Survey maps

2.5 Designated geological sites

Tier	Designation	Number
National	Geological Site of Special Scientific Interest (SSSI)	12
National	Mixed Interest SSSI	7
Local	Local Geological Sites	99

Source: Natural England (2011)

**Local sites are non statutory designations*

- 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

Mostly underlain with slates, shales, sandstones and grits of Devonian age, generally forming free-draining subsoils. Soils typical of high rainfall areas are found on parts of the higher ground where poor drainage is significant and has contributed to the formation of varying depths of peat in hollows and depressions. Rocky outcrops occur in some of the deeply incised valleys and combes and also in areas near the coast acidic peat and peaty soils on the moorland plateau give rise to extensive tracts of heather, blanket bog, grass heath and bracken. More fertile soils on the lower, flatter land surrounding the moor are under pasture and rough grassland, with floodplain pastures along the alluvial river valleys. Grade 1 land is limited to the Porlock Vale; Grade 2 land is mainly found along the Taw/Torridge floodplain and within Porlock Vale. Grade 3 land is found in the lower enclosed land surrounding the moor with Grade 4 and 5 land found in the moorland fringes and moorland respectively.

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)	Percentage of NCA
Grade 1	75	<1
Grade 2	2,498	2
Grade 3	41,354	32
Grade 4	51,360	39
Grade 5	27,711	21
Non-agricultural	5,236	4
Urban	1,409	1

Source: Natural England (2010)

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

3. Key waterbodies 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 Exe	45
River Barle	38
River Bray	18
River Mole	12
Dane's Brook	11
River Yeo	10
River Tone	7
River Taw	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.

3.2 Water quality

The total area of Nitrate Vulnerable Zone is 43,186 ha, 33 per cent of 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

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

4. Trees and woodlands

4.1 Total woodland cover

This NCA contains 15,872 ha of woodland (where woodlands are over 2 ha in size), including 2,967 ha of ancient woodland. Woodlands over 2 ha in size cover 2 per cent of the NCA.

Source: Natural England (2010)

4.2 Distribution and size of woodland and trees in the landscape

The open moorland plateau is mainly treeless. Woodland, mostly ancient and oak-dominated, cloaks the steep coastal combes and inland valleys. Stands of alder, ash and hazel can be found in wetter areas. Some of the combes include blocks of woodland of over 300 ha in size, for example, in the Barle Valley and fringing Dunkery Beacon. Most woodlands are under 100 ha in size. Mixed woodland, often ash and hazel, found on the lower ground, usually less than 50 ha in size. Conifer plantation characterises much of the moorland fringe in places.

Source: Exmoor Countryside Character Area Description, Countryside Quality Counts (2003)

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)	Percentage of NCA
Broadleaved	9,673	7
Coniferous	4,887	4
Mixed	569	<1
Other	743	<1

Source: Foresty Commission (2012)

Area and proportion of ancient woodland and planted ancient woodland sites (PAWS) within the NCA:

Wood land type	Area (ha)	Percentage of NCA
Ancient semi-natural woodland	2,726	2
Planted ancient woodland sites (PAWS)	2,128	2

Source: Natural England (2004)

5. Boundary features and patterns

5.1 Boundary features

19th-century enclosures characterised by beech-topped stone-faced hedgebanks which have grown out to form wind-pruned lines of beech. Older field patterns enclosed by irregular beech hedges and some dry stone walls at the heads of valleys and on sheltered slopes. Low trimmed hedges and wind-sculpted hedgerow trees surround fields on the edge of the Culm.

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

5.2 Field patterns

Rectilinear patterns of 19th-century enclosure extending high up to the moorland edge. Maze of small irregular fields of earlier enclosure characterising the pasture fields on the lower ground.

Source: Exmoor 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 predominance of grazing in this landscape is supported by the breakdown of farm types: a total of 683 grazing livestock units (32 per cent), with smaller numbers of dairy, mixed and horticultural holdings. Farms classified as 'other' (likely to be smallholdings) are the most numerous, accounting for 58 per cent of all holdings (1,233 farms). The 2000 to 2007 period shows, most significantly, a 74 per cent increase in smallholdings; an additional 523 holdings. The same period saw a reduction in the number of dairy farms (by 36 farms or -29 per cent), a decrease in the number of lowland grazing units (144 or -27 per cent) and an increase in grazing holdings in the LFA (134 or 29 per cent).

Source: Agricultural Census, Defra (2010)

6.2 Farm size

The number of holdings in each size category generally decreases as the holding size band increases. However, holdings over 100 ha (1,113 in total) make up 58 per cent of the total farmed area compared to small-holdings which covered less than 3 per cent. In terms of trends, there has been a significant increase in the number of smallholdings in Exmoor between 2000 and 2007. The number of holdings over 100 ha increased by 76 (32 per cent).

Source: Agricultural Census, Defra (2010)

6.3 Farm ownership

The majority of holdings are owned, accounting for 77 per cent of the total farmed area. This pattern has remained relatively static since 2000, although there has been a more significant increase in the number of owned holdings versus tenanted since 2004.

Source: Agricultural Census, Defra (2010)

6.4 Land use

As evident in the landscape and reflected in holding types, grassland is the predominant land use, covering 94,615 ha (87 per cent of the total farmed area). Combinable crops are the second most common land use, covering 4,620 ha (4 per cent). This is followed by forage crops, whilst other land uses cover less than 1,000 ha each. Between 2000 and 2007 there was a 10 per cent increase in the area under grassland (by 8,289 ha) and a 25 per cent increase in the area of forage crops (by 248 ha). The area of combinable crops decreased by 17 per cent (963 ha). There was an increase in the area of vegetables (by 221 ha).

Source: Agricultural Census, Defra (2010)

6.5 Livestock numbers

Sheep are the most numerous livestock type in this landscape, with a total of 568,100 animals, compared to a total of 75,000 cattle and 200 pigs. Trends over the 2000 to 2007 period show that, despite an increase in the area of grassland, overall livestock figures fell. There was a 10 per cent decrease in the total number of cattle (including -14 per cent dairy cattle) and a 20 per cent decrease in the total number of sheep.

Source: Agricultural Census, Defra (2010)

6.6 Farm labour

The figures suggest that the largest number of farms are run on a part-time basis by a farmer / manager (1,182 or 56 per cent), with 214 employing part-time workers. Trends from 2000 to 2007 show a decline in farms run by a full-time farmer / manager and employing full-time labour, matched by an increase in the part-time categories.

Source: Agricultural Census, Defra (2010)

Please note: (i) Some of the Census data are estimated by Defra so may not present a precise assessment of agriculture within this area (ii) Data refers to commercial holdings only (iii) Data includes land outside of the NCA where it belongs to holdings whose centre point is recorded as being within the NCA.

7. Key habitats and species

7.1 Habitat distribution/coverage

Extensive tracts of upland heath with purple moor grass, rush pastures, heather, blanket bog, bilberry, gorse and bracken define the central plateau. Heath also characterises the Bredon Hills to the east. Dense sessile oak woodlands and wet woodland line combes running from the plateaux, and mixed deciduous woodland is found on the lower ground. Coastal heath, floodplain pastures and maritime cliff and slope run along the coastal areas. Important sand dunes are found at Braunton Burrows.

Source: Exmoor & The Quantock Hills Natural Area Profile

7.2 Priority habitats

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

More information about Biodiversity 2020 can be found at; **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)	Percentage of NCA
Upland heathland	10,228	8
Broad-leaved mixed & yew woodland (broad habitat)	7,825	6
Blanket Bog	4,205	3
Maritime cliff and slope	2,057	2
Lowland heathland	1,683	1
Coastal sand dunes	920	1
Lowland dry acid grassland	807	1
Purple moor grass and rush pasture	623	<1
Floodplain grazing marsh	534	<1
Lowland meadows	320	<1
Coastal vegetated shingle	35	<1
Reedbeds	16	<1
Mudflats	13	<1
Lowland calcareous grassland	6	<1
Upland calcareous grassland	4	<1

Source: Natural England (2011)

- Maps showing locations of priority habitats are available at **http://magic.defra.gov.uk** – Select 'Habitats and Species/Habitats'

7.3 Key species and assemblages of species

- Maps showing locations of some key species are available at: http://magic.defra.gov.uk – Select 'Habitats and Species/Habitats'
- Maps showing locations of S41 species are available at http://data.nbn.org.uk/

8. Settlement and development patterns

8.1 Settlement pattern

The central moorlands are largely devoid of settlement, with scattered farmsteads and hamlets in sheltered sites, connected by narrow lanes aligned along and across ridge tops. Villages are mainly concentrated on lower slopes and in valleys, often sited around river crossing points. Along the coastal edge there is a greater variety and density of settlement.

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

8.2 Main settlements

The main settlements within Exmoor NCA are: Minehead; Dunster; Dulverton; Lynton; Barnstaple; Ilfracombe; Bampton and Braunton. The total estimated population for this NCA (derived from ONS 2001 census data) is: 83,403.

Source: Exmoor Countryside Character Area description; Countryside Quality Counts (2003), Natural England (2012)

8.3 Local vernacular and building materials

Traditional architecture dominated by Devonian sandstones, slates and shales, with minor amounts of limestone. Thin render coats and limewash is commonly used resulting in prominent white buildings. There is some survival of thatch as a roofing material. Cob wall construction persists in some traditional agricultural buildings and farmsteads.

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

9. Key historic sites and features

9.1 Origin of historic features

The area is of high archaeological interest, with bronze-age remains such as, stone rows, setting and circles, and barrows forming upstanding features. Remains of early settlements, scatters of field systems (including strip lynchets at Parracombe) and defensive earthworks, including iron-age hillforts persist. Remains of Roman iron workings near Dulverton. Water mills left from the wool industry in the Porlock and Dunster Vales.

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

9.2 Designated historic assets

This NCA contains the following numbers of designated heritage assets:

- 6 Registered Parks and Gardens covering 1,789 ha.
- 0 Registered Battlefield/s covering 0 ha.
- 338 Scheduled Monuments.
- 2,317 Listed Buildings.

Source: Natural England (2010)

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

10. Recreation and access

10.1 Public access

- 18 per cent of the NCA 23,565 ha is classified as being publically accessible.
- There are 1,578 km of Public Rights of Way at a density of 1 km per km^2.
- There is 1 National Trail (South West Coastal Path) covering 108 km within NCA.

Sources: Natural England (2010)

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

Access designation	Area (ha)	Percentage of NCA
National Trust (Accessible all year)	5,468	4
Common Land	4,816	4
Country Parks	0	0
CROW Access Land (OC and RCL)	17,834	14
CROW Section 15	3,451	3
CROW Access Land (Section 16 Dedicated)	382	<1
Village Greens	24	<1
Doorstep Greens	<1	<1
Forestry Commission Walkers Welcome Grants	3,474	3
Local Nature Reserves (LNRs)	29	<1
Millennium Greens	6	<1
Accessible National Nature Reserves (NNRs)	1,736	1
Agri-environment Scheme Access	462	<1
Woods for People	5,172	4

Sources: Natural England (2011)

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

11. Experiential qualities

11.1 Tranquillity

Based on the CPRE map of tranquillity (2006) it appears that the lowest scores for tranquillity are associated with the larger centres of Barnstaple, Ilfracombe and Braunton, as well as the road corridors of the A399 and A396. The highest scores for tranquillity are within the central moorland areas, the Bredon Hills and the undeveloped coast.

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

Tranquillity	Score
Highest value within NCA	129
Lowest value within NCA	-77
Mean value within NCA	15

Sources: CPRE (2006)

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

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 that disturbance is concentrated around Barnstable in the west, Ilfracombe on the coast and Minehead to the east, as well as the routes of the A361 and A396. However, most of this NCA remains undisturbed.

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

Intrusion category	1960s (%)	1990s (%)	2007 (%)	Percentage change (1960s-2007)
Disturbed	4	8	11	7
Undisturbed	95	91	87	-8
Urban	<1	<1	1	1

Sources: CPRE (2007)

Notable trends from the 1960s to 2007 are the extent to which landscapes are intruded on from urban development, noise (primarily traffic noise), and other sources of visual and auditory intrusion. This shows a similar pattern to the Tranquillity Map, with areas of disturbed land primarily associated with the A361 road corridor which forms the southern boundary of the NCA, along with development at Barnstaple, Braunton, Ilfracombe, Combe Martin and Minehead.

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

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 Inventory of Woodland & Trees, Forestry Commission (2003)
- Countryside Quality Counts Draft Historic Profiles, English Heritage (2004)*
- Ancient Woodland Inventory, Natural England (2003)
- BAP Priority Habitats GIS data, Natural England (March 2011)
- Special Areas of Conservation data, Natural England (data accessed in March 2011)
- Special Protection Areas data, Natural England (data accessed in March 2011)
- Ramsar sites data, Natural England (data accessed in March 2011)
- Sites of Special Scientific Interest, Natural England (data accessed in March 2011)
- Detailed River Network, Environment Agency (2008)
- Source protection zones, Environment Agency (2005)
- Registered Common Land GIS data, Natural England (2004)
- Open Country GIS data, Natural England (2004)
- Public Rights of Way Density, Defra (2011)
- National Trails, Natural England (2006)
- National Tranquillity Mapping data, CPRE (2007)
- Intrusion map data, CPRE (2007)
- Registered Battlefields, English Heritage (2005)
- Record of Scheduled Monuments, English Heritage (2006)
- Registered Parks and Gardens, English Heritage (2006)
- World Heritage Sites, English Heritage (2006)
- Incorporates Historic Landscape Characterisation and work for preliminary Historic Farmstead Character Statements (English Heritage/Countryside Agency 2006)

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

Supporting document 2: Landscape change

Recent changes and trends

Trees and woodlands

- New planting has maintained and possibly strengthened the existing woodland patterns, particularly in river valleys in recent years. There was a modest increase in the uptake of Woodland Grant Schemes (WGS) between 1999 and 2003 (from 11 per cent to 27 per cent of the eligible area) partly in response to the Forestry Commission's 'New Native Woodland Challenge Fund' on Exmoor and the work of the South West Forest in the west of the National Park.

  Approximately a tenth of the woodland cover is on ancient woodland sites, with well over a third of this resource supported by WGS (Countryside Quality Counts data). WGS agreements included expansion of upland oak, natural regeneration and exclusion of livestock.

- Phytophthora infection is resulting in some large-scale clearances of blocks of larch plantation.

Boundary features

- The second half of the 20th century saw a decline in the extent and condition of boundary features. Stewardship agreements have brought about a positive change in hedge and hedgebank management, the introduction of fencing to protect hedges from livestock, hedge and tree planting, and general restoration. 1,535 km of hedgerow, 229 km of hedgebank and 236 km of earth bank are now managed by land managers under Environmental Stewardship.

Agriculture

- Generally the agricultural profile of the area has remained stable with only a slight increase in the amount of grassland with an equivalent reduction in arable cropping.

- There has been an increase in the number of small-holdings, but this type of farming still only accounts for 3 per cent of the total area. Larger, owned farms are still predominant, maintaining the character of the area.

- The numbers of sheep across the area have reduced markedly from nearly 750,000 to just over 500,000 animals.

Settlement and development

- Little development has occurred across much of the area in recent years, however, given its undeveloped nature, where it does occur it often results in a marked change. Development around the fringes of Barnstaple and some coastal settlements is discernable, including leisure and recreational developments.

- Wind energy developments have been realised in the west of the area, including currently the largest onshore wind farm in England at Fullabrook Down.

Semi-natural habitat

- Generally the extent and condition of semi-natural habitats across the area has increased and improved. The area of SSSI is significant at over 15 per cent, with nearly 93 per cent in favourable or recovering condition.

Historic features

- Historic features are prominent components across the area and remain stable in condition and character. About 71 per cent of historic farm buildings remain unconverted and about 94 per cent are intact structurally.

- Reduction in grazing of the higher moors will reduce physical pressure on many sensitive bronze-age and other heritage assets, but scrub and other vegetative encroachment may make them less distinct, recognisable and prone to accidental mechanical damage.

Coast and rivers

- Porlock shingle ridge has been breached permanently resulting in salt water encroachment into the grazing marshes behind, benefitting wildlife, but compromising some farming activity, coastal access and heritage assets. Other coastal change is relatively slow due to the nature of the geology and coastal geomorphology.

- The quality of water in rivers across the area is generally high, although some decline in biological quality has been noted, while chemical quality remains constant. Diffuse agricultural pollution is affecting water quality entering Wimbleball reservoir.

Drivers of change

Climate change

- Exmoor National Park Authority has undertaken a climate change risk assessment for the National Park. This provides an important source of evidence identifying opportunities and threats, such as; increased risk of 'wildfires' affecting heath, moor and woodland habitats; low water levels in rivers threatening numbers of fish; desiccation of mires and shrinkage of peat; increased risk of extreme weather causing flooding and storm damage; loss of low lying coastal land due to rises in sea level; and, improved growing conditions for some crops and timber trees. The report identifies both positive and negative implications of climate change.

- Potential rises in sea level combined with sporadic increases in rainfall and rapid run-off from high ground, may result in flash flooding becoming increasingly common, most notably in the low lying vales at Porlock and Dunster, and at Braunton.

- Prolonged periods of drought are likely to have adverse affects on peat soils and habitats, making them more prone to erosion, wildfire events and significant changes in flora and fauna. Marshy grassland and rush-pasture may similarly be affected by prolonged periods of drought. Desiccation of peat soils could result in damage to buried archaeology and loss of paleo-environmental records.

- Increased storminess, periods of drought and the prevalence of pests and diseases may have an impact upon the area's characteristic semi-natural woodlands and plantations.

- Warmer winters could promote increased tree growth, as well as providing suitable conditions for new and existing invasive non-native species particularly affecting woodland composition.

Other key drivers

- Pressure to develop within the area is generally low. Given the overall sensitivity of the landscape and natural environment great attention to detail needs to be employed to ensure enhancement of character and quality environment results from any development.

- Allowing natural coastal processes to operate unimpeded. There are opportunities for managed realignment where coastal defences are not economically sustainable to extend or create new habitats. Natural coastal habitats can reduce the risk of flooding. Managed realignment sites are a cost effective flood defence strategy, in addition to providing new intertidal habitat.

- Given the generally sparse population and exposed nature of the area, pressure to erect further wind farms will be sustained. Conserving and enhancing the character and special qualities of the designated landscapes will present a challenge. In addition, off-shore wind farms and other marine renewable energy schemes may result in changes to seaward views and a perceived intrusion into the 'wildness' of the coast.

- Re-wetting of upland and peat soils provides significant opportunities for biodiversity, carbon storage and reduced flood risk in lower-lying areas. Watercourses are short, but with large catchments resulting in rapidly occurring flood events. Management of upland areas to withhold water for more prolonged periods and reducing the velocity of sporadic peak flow events, have the potential to be highly beneficial.

- Maintaining, or establishing a balance in farming activity between the open moor and by-land. Generally the rate and targeting of stocking presents challenges with more marginal areas facing abandonment, while increased grazing pressure results elsewhere.

- Maintaining an agricultural economy to sustain a labour force sufficient to manage the farmed landscape remains a challenge along with continuing to provide food locally and regionally.

- Changes in agri-environment payments across the former Environmentally Sensitive Area (ESA) may reduce the amount of formerly capital-paid works, such as traditional hedgebank management. New incentive schemes, for example, local wood fuel initiatives, may provide alternatives ensuring continued positive management.

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.

Exmoor coast from Woody Bay. The highest cliffs in England supporting a wealth of plant, bird and animal life and of considerable geological interest.

Statement of Environmental Opportunity	Food provision	Timber provision	Water availability	Genetic diversity	Biomass energy	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
	Ecosystem service																		
SEO 1: Protect, manage and enhance the landscape of large areas of open, 'wild' moorland and Atlantic coast, and deep wooded combes, supporting internationally important habitats and species, helping to regulate water quality and quantity, storing carbon dioxide and protecting soil structure and water resources across the area.	o *	↗ **	↗ **	↔ *	↗ *	↑ **	↑ ***	↗ **	↑ ***	↗ ***	↗ *	o *	↔ *	↑ ***	↗ **	↑ **	↗ **	↑ *	↗ **
SEO 2: Protect and enhance the nationally important, highly distinctive and diverse landscape, the wealth of geodiversity, extreme tranquillity and dark skies, the rich cultural heritage and traditions, and inspirational qualities of the area that contribute to the attraction of the area for leisure, recreational and sporting activities.	o *	o *	o *	↔ *	o *	o *	o *	o *	o *	o *	o *	o *	o *	↑ ***	↑ ***	↑ ***	↑ ***	↗ **	↑ ***

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

Dark plum = national importance; mid plum = regional importance; light plum = local importance

Statement of Environmental Opportunity	Food provision	Timber provision	Water availability	Genetic diversity	Biomass energy	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
	Ecosystem service																		
SEO 3: Plan for the effects of coastal change, allowing the operation of natural coastal processes and the creation of new habitats to maintain and enhance local coastal landscape character and biodiversity, and improve sustainability of current management practices, while reducing flooding of built areas and valuable productive land.	o *	o *	o *	o *	o *	↗ **	↗ ***	↗ *	↗ ***	↗ *	↗ *	o *	↑ ***	↑ ***	↑ **	↑ ***	↑ ***	↑ ***	↑ ***
SEO 4: Reinforce the wider distinctive character of the pastoral and mixed farmed landscape through a continuation of upland and other farming traditions.	↗ **	↗ *	o *	↑ *	o *	o *	o *	o *	o *	o *	↗ *	o *	↔ *	↑ ***	↑ ***	↑ ***	↑ ***	↗ **	↗ **

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

Dark plum = national importance; mid plum = regional importance; light plum = local importance

Landscape attributes

Landscape attribute	Justification for selection
A diverse landscape of uplands, plateaux and coastal vales, often contrasting dramatically from surrounding lowlands.	■ The upland landscape, and particularly that which lies within the Exmoor National Park, is particularly distinctive as recognised by residents and visitors alike. ■ The plateaux landscape to the west of the area is equally distinctive, but of a more pastoral, less diverse character. ■ Distinct, intimate and fertile coastal vales at Dunster and Porlock, and historically important field-systems at Braunton contrast with the upland landscapes.
A complex and dramatic coastline of headlands, steep vegetation-clad cliffs and combes, often cloaked with ancient, oak-dominated woodland, waterfalls and coves, exposures of Devonian strata, fine sandy beaches, a distinctive long shingle ridge at Porlock Bay and sand dunes at Braunton Burrows.	■ The coast is visually outstanding, almost all within and at the heart of either the National Park or North Devon AONB, and designated as Heritage Coast. ■ Cliffs, some of the highest in England, plunge as precipitous, vegetation-clad slopes to the sea with waterfalls cascading down deep combes between sheltered coves. ■ Fine sandy sheltered beaches popular with visitors. ■ The geological exposures, a special feature of the North Devon coast add to the drama with complex folding and strata clearly visible. ■ The diversity of coastal features is added to by the shingle ridge at Porlock Bay, which is within Porlock Marsh SSSI, and a prime example of a drift aligned barrier, the sand dunes, the largest in England, at Braunton Burrows (SAC), and mudflats and estuarine features at Ilfracombe and Barnstaple respectively. ■ The coastline has the longest stretch of coastal woodland in England between The Foreland and Porlock.

Landscape attribute	Justification for selection
Steep-sided valleys containing fast-flowing rivers and streams, often with ancient, oak-dominated woodland on middle and lower slopes.	■ Off of the high moorland and pastoral plateaux to the west of the area, broadleaved woodland is a defining element of the landscape, as well as comprising one SAC and 3 NNRs. ■ The woodlands contribute to the area's diversity and sense of place, as well as the local economy supporting timber production and game shooting businesses. ■ The rivers and streams, particularly the Barle, are renowned for the quality of their salmon and trout fishing, but also provide places of intense tranquillity and restfulness. ■ In winter, the fast-responding rivers and streams can become powerful forces; violent and occasionally destructive.
An open, mainly treeless moorland plateau at the heart of the area, with extensive tracts of heather, blanket bog, mire, grass heath and bracken traditionally grazed by sheep, cattle, Exmoor ponies and herds of red deer.	■ Important deposits of peat, and extensive heaths and moors much with SAC status and incorporating numerous SSSI, comprised of several priority habitats (including upland heath, blanket bog, purple moor grass and rush pasture). ■ The openness of the area enables long views and creates a sense of elevation and freedom, and removal from modern clutter and bustle. ■ Exmoor ponies and one of the largest herds of red deer in England are highly characteristic features of the area and much valued by local residents and visitors alike. The Exmoor pony is a rare breed (as classified by the Rare Breeds Survival Trust). ■ As with many upland areas, sheep are a defining component of the landscape. The Exmoor Horn breed is particularly well-adapted to this southern, upland environment, and is of importance to the area. ■ Cattle are a feature of the lower slopes and more pastoral valleys, and local breeds, particularly Red Devon, tend to be favoured.

Landscape attribute	Justification for selection
A long history of human occupation is evident in the numerous heritage assets to be found across the landscape.	■ The story of human occupation is told by the many, and often protected, heritage assets to be found; prehistoric barrows, stone circles, rows and settings, hill-top enclosures, early settlements, Roman iron workings at Dulverton, water mills in the Porlock and Dunster Vales and on most streams and rivers, and 19th century industrial activity, parkland and estates on lower slopes. ■ The Exmoor area contains 338 Scheduled Ancient Monuments, a wealth of Listed Buildings, six registered Historic Parks and Gardens, and undoubtedly a vast amount of undiscovered buried archaeological assets.
A distinct and varied pattern of fields, enclosure and settlement reflecting a long and ongoing history of agricultural activity and dispersed occupation.	■ Large rectilinear fields of 19th-century origin extending high up to the moorland edge and across the western plateau, bounded by beech-topped hedgebanks grown out to form wind-pruned lines of beech trees. ■ Ancient, irregular fields surrounding the moor, and occasionally across the western plateau enclosed by hedgebanks, occasional stone faced. ■ Preserved medieval open-field system at Braunton Great Field. ■ The scarcity of settlement in the open moorlands and high plateaux contributes to the area's sense of peace and tranquillity. ■ A unifying vernacular architecture of local stone and simple whitewashed dwellings reinforces an historic and traditional sense of place, closely linked to the evolution of the landscape. ■ Occasional relict orchards adjacent to settlements and farmsteads in valleys and more sheltered lower slopes.
A landscape of great tranquillity and calm with dark night skies, particularly on the moorland plateau.	■ The Exmoor National Park area has recognised as an International Dark-Sky Reserve; the first in Europe. ■ Some 87 per cent of the area is classified as undisturbed in CPRE's Intrusion Map, with the central moorlands, in particular, an area of great tranquillity.

Landscape opportunities

- Conserve the landscape's local distinctiveness and high levels of tranquillity with exposed high open moorland and a spectacular, varied coastline contrasting with more intimate wooded valleys, ancient pasture fields, mixed agriculture and historic settlements.
- Protect from damage and appropriately manage the area's rich cultural heritage, most notably bronze-age and iron-age remains, hilltop enclosures and earthworks, Roman military sites, iron workings, water mills and other industrial heritage assets, linhays and other vulnerable structures, and estates and planned landscapes.
- Continue to allow natural coastal processes to occur, creating and maintaining the dramatic and diverse coastal landscape of cliffs, shingle ridges, rocky and sandy beaches, sand dunes, saltmarsh and coastal heath.
- Actively manage and, where appropriate, expand areas of semi-natural, broadleaved and wet woodland along valleys and combe slopes. Expand the area of woodland within farmland (particularly on more intensively farmed slopes), creating links to hedgebanks forming a connected and resilient network of habitat.
- Positively manage and reinforce the rectilinear pattern of 19th-century beech hedgebank enclosures on the moorland edge, reinstating coppice management and re-laying over-mature sections of hedge. Manage and restore the hedgerows and stone walls surrounding the ancient irregular fields off the moor to strengthen distinctive field patterns.
- Manage through extensive grazing and appropriate levels of swaling, the open heather moor, re-linking remnant areas of heather moor and maintaining the open character of the landscape. Further extend connectivity by the reversion, where appropriate, of areas of conifer plantation to open moorland when plantations reach maturity.
- Manage sustainable populations of the Exmoor pony and red deer herds and encourage the use of local, distinctive breeds of sheep, such as Exmoor Horn (all important for the extensive grazing of the open moorland), and cattle, such as Devon and Devon Red, where appropriate.
- Manage and extend the internationally important wetland habitats of the central moorland (blanket bog, valley mire, wet heath and rush pasture) to form a strengthened and more climate change-resilient resource.
- Plan and prepare for coastal change as a result of climate change, including through extending and restoring habitats (internationally important areas of coastal and floodplain grazing marsh, saltmarsh, mudflats and sand dunes), realising options for future adaptation, including managed realignment.
- Plan for the creation of new broadleaved woodland and coastal habitat mosaics to provide the landscape settings to the main settlements on the periphery of the NCA (Minehead, Ilfracombe, Braunton, Barnstaple) to provide robust attractive new landscapes. Incorporate access for the surrounding populations, as part of green infrastructure proposals linking into the heart of urban areas and outward to the boundaries of Exmoor National Park area.

Ecosystem Service analysis

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

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

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Food provision	Livestock production	A significant producer of lamb and beef with some dairying. Poor, wet soils limit opportunities for arable cropping, with the exception of Braunton Great Field, and Porlock and Dunster vales.	Regional	The area supports over 500,000 sheep and approximately 75,000 predominantly beef cattle making it a major meat producing area. High value cropping and arable production is found in low-lying fertile areas. Some specialist producers are also supported; specialist cheese producers, including those using goats' milk and Campscott cheese made from ewes' milk. The area is locally important for apple juice production from local traditional orchards and heather honey from the open moorland. Wild meats such as venison and game are associated with the area. Increases in productivity would likely either require increased inputs or be at the cost of other land uses.	A challenge exists to maintain economically viable and sustainable livestock farming in marginal areas. Safeguarding food provision while enhancing a range of key ecosystem services biodiversity, regulating soil erosion, water quality, and regulating water is the principal challenge. High end value, locally branded produce may improve margins. Exmoor has the largest herd of native red deer in England, some 3,000 animals, and they are regarded as some of the finest and largest examples of their species in this country. Venison from this herd is not currently sold commercially, but the feasibility of marketing venison as a sustainable, high-quality local product is being explored.	**Food provision** **Regulating soil erosion** **Biodiversity** **Regulating water quality** **Regulating water flow** **Sense of history**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Timber provision	Existing conifer plantations and broadleaved woodlands	The main source of commercial timber is predominantly in the east of the area and currently in the form of conifer plantations on the edges of the open moorland, and on some steeper slopes and valley sides where they have replaced semi-natural woodland. In total these plantations cover some 4 per cent of the NCA.	Regional	The concentration of conifer plantations and wooded combes and valleys is part of the essential character of the Exmoor National Park area. Some areas of commercial larch plantation have come under threat from, or have been felled due to, phytophthora infection. The treeless nature of much of the western plateaux is in stark contrast, although areas of estate woodland do exist. An increase in softwood production may involve loss of sensitive habitats; moorland heath, deciduous woodland, and unimproved wet grassland and rush pasture. Some significant areas of tree cover are associated with estates and historic parkland. Reversion of conifer plantations to broadleaved woodland would be most effectively achieved through natural colonisation rather than planting.	Increase the area of woodland, through natural colonisation, and potential timber provision only where enhancement of landscape character can be demonstrated, where sensitive habitats are not compromised, and where soil erosion and water are better regulated. Increases in 'farm' woodland in the western portion of the area and possibly the southern Brendon Hills may be most appropriate. Carefully balancing other commercial and recreational interests with the provision of timber will also be a consideration.	**Timber provision** **Regulating water flow** **Regulating soil erosion** **Sense of place/ inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biomass energy	Existing woodland and hedgebank standard trees	The main source of biomass potential lies in existing woodland, and particularly broadleaf woodland (covering some 7 per cent of the area). The area offers low potential yields for short rotation coppice (SRC) except at its western end where it has a medium yield potential. For miscanthus, it has a medium potential yield class except at its western and eastern ends where it has a high potential yield class[4].	Local	There are limited suitable locations for new biomass plantings; however, more could be done to improve outputs from existing woodlands. Similarly, arisings from hedgebank management, and particularly a sustainable rotation and management of standard trees, would have the potential for local biomass provision.	Bring existing broadleaved woodland back under traditional management as a source of wood-fuel, woodchip and traditional under-wood products, particularly where this can be achieved for the additional benefit of wildlife. Opportunities for biomass planting are restricted by both physical constraints and the impact planting will have on landscape character. Localised opportunities would be restricted to the lower fringes of farmland around the southern side of the upland plateau where small-scale planting of SRC could be accommodated within some wider valley bottoms and miscanthus planting within lower areas of mixed farmland.	**Biomas energy** **Biodiversity** **Sense of place/ inspiration**

[4] https://www.gov.uk/industrial-energy-and-non-food-crops-business-opportunities-for-farmers

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Water availability	Blanket bog and heathland communities Reservoirs Upland streams and rivers High levels of precipitation Peat soils	Much of the eastern upland plateau forms part of the upper Exe catchment with the peaty soils of the open moorland storing water and feeding the headwaters of a radial pattern of rivers. The Exe and its principal tributary the Barle, flow south. On the western side of the NCA the rivers Yeo, Mile and Bray drain into the River Taw, to the north the rivers Umber, Heddon and West and East Lynn drain directly into the Bristol Channel. To the east Hawkcombe Stream, Horner, Aller, Aville and Washford rivers cut through the area, again flowing northward to the Bristol Channel. The River Tone rises at Bereton pond near the south-eastern edge of the area. **Continued on next page...**	Regional	Abundant water is one of the defining characteristics of the area. Historically, water as a source of energy has played a large part in shaping the settlement, management and economic activity of the area. High rainfall, combined with underlying impervious geology results in water moving rapidly through the area, apart from where flows are checked and filtered in peaty, upland soils or stored in reservoirs. The growth of Barnstaple in the west and Exeter to the south may place further pressure on the water resources of Exmoor. The water catchments of the Exmoor area already provide fresh drinking water for more than half a million people.	Seek opportunities to increase the availability of water by reducing the rate of flow from moorland areas through restoration of moorland habitats, reinstating more natural forms of fluvial systems which see a return to meandering river and stream channels and functional flood meadows adjacent to main water courses. Seek opportunities to realise the energy producing potential of fast flowing streams and rivers, particularly where this coincides with the restoration and maintenance of historic structures, features and management practices. Encourage good environmental management of moorland habitats, especially blanket bog, increasing the capacity of habitats to retain water.	**Water availability** **Regulating water 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
Water availability		**...continued from previous page.** The area overlies an impermeable base rock of Devonian sandstone although a small area to the eastern edge overlies Permo-Triassic sandstone. The area is a key source of water for the region, with the Wimbleball Reservoir supplying Exeter and parts of East Devon by releasing water into the River Exe. Clatworthy Reservoir is another major source of water. Most of the area is classed as having water available for abstraction, although the eastern part of the NCA is classed as either over licensed or having no further water available for abstraction.				

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Climate regulation	Carbon rich, upland peaty soils and high levels of organic matter in other soils Blanket bogs Existing ancient semi-natural woodlands Estuarine habitats and systems; saltmarsh, mud flats reed beds and grazing marsh	Carbon storage in the soils of the open moorland is high, ranging from between 20 and 50 per cent. Past degradation of peat soils and blanket bogs in the central moorland, through wildfires and unsustainable burning practices and drainage, has reduced the soil's ability to sequester and store carbon, store water and regulate water quality. The highest levels of potential carbon storage are associated with the blanket bogs of the moorland, particularly along The Chains from Simonsbath to Dunkery Beacon. Significant areas of wetland habitat, including purple moor grass and rush pasture, coastal and floodplain grazing marsh (combining to cover 1,300 ha), and extensive woodland cover (12 per cent of the NCA), provide further carbon storage and sequestration functions. Levels of carbon storage within the farmed landscape drop to between 0 and 10 per cent.	National	The peat-based soils of the upland plateaux are of considerable importance for the storage of green-house gases. Eroded and damaged areas of peat require re-vegetating and management to protect and ensure maximum storage potential. Similarly the wet soils associated with and capable of supporting rush pasture, areas of purple moor grass and coastal and floodplain grazing marshes, should be managed to further maximise their carbon content and capacity to store green-house gases. Areas of ancient semi-natural woodland in upland valleys and combes store significant amounts of carbon and are underlain by soils with relatively high carbon content.	Ensure all areas of blanket bog and peat-based soils are under good environmental management improving the habitat's ability to sequestrate carbon dioxide from the atmosphere, and retaining significant volumes of green-house gases. Encourage sustainable and extensive grazing regimes on permanent pasture, particularly areas of rush pasture and purple moor grass, and floodplain and coastal grazing marsh, with a low input of artificial fertiliser, increasing soil carbon levels and the ability to sequester carbon dioxide. Create new woodland where it would complement landscape, biodiversity or historic environment interests.	**Climate regulation** **Regulating water quality** **Regulating water flow** **Biodiversity** **Regulating soil quality**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil erosion	Slowly permeable, wet, acid upland soils with a peaty surface in places More fertile, but wet soils on lower plateaux Fertile soils in alluvial floodplains and vales Permanent pasture Semi-natural habitats	The catchment of the Exe is a Defra priority catchment under the ECSFDI. Some issues relate to soil erosion, particularly from fields on steep valley slopes under high rainfall. Access to riverbanks by stock contributes to soil erosion[5]. (See also regulating water quality.)	Regional	Generally the plateaux soils are not at great risk of erosion. Peaty soils in the moorland areas are more vulnerable where vegetation has been lost through over-grazing, inappropriate burning regimes, trampling and poaching, particularly as a result of the over-use of motorised vehicles or concentrations of visitors. The soils at most risk of erosion are situated on the steeper valley and combe sides and across the more intensively farmed vales. Rapid and dynamic responses to high rainfall can result in very significant areas of localised erosion, on both steep slopes and in more intensively cultivated areas.	Manage the moorlands to ensure good vegetative cover and reduce run-off rates by restoring the hydrology and ecology of moorland habitats. Take steps to repair areas of bare peat through the re-establishment of moorland vegetation and realise opportunities to get peat forming vegetation established across a wider area. Carefully manage or avoid clear felling of woodland on steep valley sides and combes where subsequent soil erosion could be anticipated. Plant new woodland on steep valley and combe sides susceptible to erosion. Seek opportunities to establish areas of permanent pasture from arable cultivation in valleys and vales that are most susceptible to soil erosion in high rainfall situations.	**Regulating soil erosion** **Regulating water quality** **Regulating water flow** **Regulating soil quality** **Biodiversity** **Climate regulation**

England Catchment Sensitive Farming Delivery Initiative: catchment priorities:

[5] https://www.gov.uk/catchment-sensitive-farming-reduce-agricultural-water-pollution

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating soil quality	Slowly permeable wet, acidic, peaty upland soils Free and poor draining soils, affected by high rainfall Localised highly fertile alluvial soils Permanent pasture Semi-natural habitats	The moorland plateau is defined by acidic peaty soils (reflected in the classification as Grade 5 agricultural land across 21 per cent of the area). Slightly more fertile soils, significantly affected by high rainfall and often poor drainage, are found away from the moorland plateau supporting mainly pasture (reflected in the classification as Grade 3 and 4 agricultural land across 71 per cent of the area.) Alluvial deposits are found along river valleys and vales producing the richest soils (mainly Grade 2 across 2.5 per cent of the NCA). Fertile free draining soils constitute much of the Braunton Great Field.	Local	Unsustainable burning practices, compaction, erosion, over-drainage and loss of vegetation on peat soils on the moorland plateau will be causing localised deterioration in soil quality. Organic matter may be being lost through tillage across more intensively farmed areas away from the open moorland. Lack of organic matter makes soils more susceptible to compaction and erosion.	'Re-wetting' of areas of degraded peat soils can improve structure and stability of the soils. Similarly, exposed and bare areas of peat soil would be improved through re-vegetation. Ensure levels of organic matter are maintained in high-value agricultural soils, where found, minimising tillage operations where possible. Identify and apply grazing regimes that increase sward diversity and increase levels of organic matter. Manage with extensive, and where appropriate, mixed grazing regimes to reduce stocking densities and avoid soil compaction.	**Regulating soil quality** **Regulating water quality** **Climate regulation** **Regulating water flow** **Regulating soil erosion**

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, including the rivers Exe and Barle Extensive areas of semi-natural habitats including moor, rush pasture, semi-improved grassland and woodland An area of high rainfall	The ecological quality of the majority of rivers is considered 'good', particularly the River Barle and its' tributaries. Some stretches of river are classified as only moderate, primarily within the Exe catchment. The catchment of the Exe is a Priority Catchment under the ECSFDI although the main areas of key concern lie outside this NCA. Key issues relate to nutrient leaching (phosphates bound to soil particles and slurry) and soil erosion particularly from fields on steep valley slopes under arable production or where soils have become compacted from high livestock numbers[6]. (See also regulating soil erosion.) A third of the area is classified as a Nitrate Vulnerable Zone (NVZ).	Regional	Water quality is important to this area in support of much of the biodiversity resource found in the area. Particularly the quality of the Exe and Barle and their tributaries is significantly and directly influenced by the management of the surrounding moor and farm land. Careful management of livestock, particularly controlling access to watercourses and waste management, is essential to maintaining good water quality. Moorland burning increases levels of dissolved organic carbon (DOC), acidity, colouration and sediment transfer.	Seek opportunities to establish extensively managed permanent grassland, and areas of scrub and woodland along combes, steep valley sides and near watercourses. Increase the amount of farmland managed under principles established by the Catchment Sensitive Farming initiative. Fencing watercourses and introducing cross-field hedge and tree planting, where appropriate will reduce sedimentation and nutrient loading. Landscape and visual impacts from such activities could be minimised by reference to local Landscape Character Assessment. Reduce the rate of flow from moorland areas through restoration of moorland habitats, reinstating more natural forms of fluvial systems which see a return to meandering stream and river channels to reduce turbidity and sediment transfer.	**Regulating water quality** **Regulating soil erosion** **Regulating water flow** **Biodiversity**

England Catchment Sensitive Farming Delivery Initiative: catchment priorities:

[6] https://www.gov.uk/catchment-sensitive-farming-reduce-agricultural-water-pollution

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating water flow	High peat moorland plateaux and wet, rush pasture Fast flowing rivers and streams Wooded, steep-sided valleys Flood-meadows and vales	The steeply sloping topography across most of the area means that, while few of the rivers have large floodplains, flooding in the constricted valleys can be significant and rapid. High rainfall or snow melt on the moorlands, particularly when running over saturated or frozen ground, can cause hazardous flash floods that threaten settlements and infrastructure downstream. The flooding of Lynmouth in 1952, which resulted in a significant loss of life and damage to property, was a case in point. These issues are likely to become more severe with climate change.	Regional	The character of the area is intrinsically linked with the wet moorland and rush pasture of the high plateaux and the subsequent fast flowing, rapidly changing streams and rivers. The high, wet plateaux have capacity to store volumes and water and allow slow rates of flow in periods of high rainfall. However, settlements concentrated in sheltered valleys, at historic crossing points and in the fertile vales are prone to dramatic and occasionally catastrophic flooding. Across this NCA much can be done to consider 'whole catchment' management of watercourses; from the watershed on the high moor or plateaux, to discharge into the Bristol Channel, or larger rivers and estuaries and rivers in neighbouring NCAs. A recent pilot study of the Horner and Aller catchments and possible responses to flood risk, carried out by the National Trust in partnership, demonstrates this approach.	Slow down run-off from the moorlands by blocking and repairing eroded channels and tracks linked to an increase in the water storage capacity of the moors by restoring and expanding areas of wetland habitats, particularly blanket bog Seek and realise opportunities to restore fluvial systems within the landscape and re-engage rivers with floodplains and wetland habitats wherever possible. Manage cultivation in vales and adjacent to watercourses to optimism water penetration. Reinstate permanent pasture adjacent to watercourses, through the vales and along narrow valleys.	**Regulating water flow** **Regulating soil erosion** **Regulating water quality** **Water availability** **Biodiversity** **Sense of place/ inspiration** **Geodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Regulating coastal erosion	Sand dune systems and shingle ridges Hard-rock cliffs Mud flats, reed beds, saltmarsh and other estuarine habitats	The Taw-Torridge Estuary (including the internationally important sand dunes at Braunton Burrows) is identified as at risk from future sea level rise and coastal erosion, with potential long-term options for managed realignment being looked into through the Shoreline Management Plan[7] process. The shingle ridge at Porlock Bay was breached in 1996, resulting in the creation of a salt marsh inland. Work has been undertaken to retain this feature while protecting the coastline from further incursions. While the Shoreline Management Plan advocates a "do nothing" strategy for most of the Exmoor coastline, it seeks to maintain coastal sea defences at Lynmouth and Porlock Weir.	Local	Much of the coast of the Exmoor area is formed from hard rock cliffs which are only slowly eroding. Settlements such as Ilfracombe, which lay protected from the sea by natural rock formations, are less at risk from coastal flooding. However, the low lying settlements and areas of land at Dunster, Porlock Lynmouth and along the Taw-Torridge Estuary to Braunton are more dependent on natural coastal processes to form defences. Where these natural defences are vulnerable natural processes should be allowed to occur to form new alignments. Coastal flooding is most damaging in this area when a combination of rapid run-off from the high plateaux following peak rainfall occurs at high tides with flood water unable to discharge to the sea. As such, coastal flooding should be considered closely with fluvial flooding (see above).	Allow for the formation of natural coastal flood defences in the form of developing sand dunes and shingle ridges. Seek opportunities to minimise damage to highly distinctive sand dunes and shingle ridges and encourage the development of 'soft' defences wherever possible.	**Regulating coastal erosion** **Biodiversity** **Sense of place/ inspiration** **Geodiversity**

[7] Shoreline Management Plan 18 - Hartland Point to Anchor Head: https://www.gov.uk/government/publications/shoreline-management-plans-smps/shoreline-management-plans-smps

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Pollination	Upland moors, lowland and coastal heaths, and species rich hedgebanks, broadleaved woodland, and saltmarsh and sand dune complexes Occasional relict traditional cider orchards.	Large tracts of upland, lowland and coastal heath, along with lowland meadows, purple moor grass, woodland with a diverse ground flora, flowering species-rich hedgerows and areas of sea lavender associated with saltmarsh habitat provide important nectar and pollen sources across the landscape. Traditional cider orchards remain often adjacent to settlements and farmsteads in valleys and more sheltered locations, providing reserves for pollinating insects.	Local	A range of habitats support a significant number and variety of important plants, providing an important and widespread base for pollination. Traditional orchards often occur in a relict or neglected state, although resurgence in interest in local produce has seen some work to restore, replant or plant new stock.	Indentify opportunities for enhancing and expanding the range and variety of diverse habitats as a ground for pollination particularly at the moorland fringe and in proximity to areas of arable production through the network of hedgebanks and semi-natural grassland sites. Encourage the careful restoration and restocking of traditional cider orchards using local and traditional varieties, providing a nectar source for pollinating insects.	**Pollination** **Food provision** **Biodiversity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place/ inspiration	Open, expansive, 'wild' moorland, woodlands and coast Dramatic and diverse coastal cliffs and dunes	A highly distinct landscape with a clear sense of identity defined by its high heather and grass moorlands, dramatic narrow wooded valleys, steep wooded coast falling to the sea from a great height, massive sand dune complex at Braunton Burrows, and broad pastoral plateaux. Fast flowing streams and rivers, red deer and Exmoor ponies, solitary farmsteads, beech windbreaks and outgrown hedges, and villages in valley bottoms punctuate the landscape and add to a clear identity. A landscape that has offered great inspiration through the centuries and to this day. The natural drama of the landform, particularly at the coast and around the high moorland plateau, combined with clear evidence of human occupation and modification result in a landscape easily **Continued on next page...**	National	The Exmoor area has a strong and very clear sense of identity reflected in much of it being designated either National Park or Area of Outstanding Natural Beauty. Visitors to and residents in the National Park repeatedly identify 'landscape' as the most important aspect of the area, and their main reason for visiting. Outside the National Park the area has an equally distinctive character; divided principally into the western plateaux, the rocky coast, the dunes and flat fields around Braunton, and the Barnstaple and Taw/Torridge Estuary. The majority of the area has an 'unspoilt' and immediately recognisable character; a coherence and clear legibility. In some parts where decisions have not been informed by local distinctiveness development has begun to reduce the clarity and cohesion of the area.	Identifying, protecting and reinforcing the distinctive elements and features of the landscape are essential to maintaining the distinctiveness and inspirational character of the area. Of particular importance is the maintenance of a 'wild', open, uncluttered, and generally undeveloped character. All opportunities to ensure that development respects local settlement patterns and building materials should be taken to avoid the loss of historic evidence through insensitive development or management.	**Sense of place/ inspiration** **Recreation** **Tranquillity** **Sense of history**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of place/ inspiration		**...continued from previous page.** read, but deeply complex in content. The area has strong and unique cultural traditions, many linked with agricultural, woodland and hunting. This landscape inspired not only unique and closely rooted works such as R D Blackmore's *Lorna Doone*, but also esoteric movements, most notably Coleridge and Wordsworth and the *Romantic Movement*.				

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Sense of history	Record of 8,000 years of human occupation in the landscape Extensive survival of prehistoric heritage assets on the high moorland Historic settlements and vernacular buildings Exmoor Forest Braunton Great Field open field system	A landscape with a rich cultural heritage manifest in its agricultural traditions, numerous archaeological features (such as stone settings and rows, barrows and derelict iron workings), and historic settlements. Although present in significant numbers often the relatively small scale of heritage assets in the area leads to a lack of recognition and proper understanding. Prehistoric and bronze-age features are of particular importance, but equally the story of agricultural change and localised industries, particularly iron mining, fishing and the wool industry, are clear. A number of heritage features are a major attraction for visitors, for example, Tarr Steps, Dunster village and castle. Second World War coastal defences at Croyde and Woolacombe and the use of Braunton Burrows as a training ground in advance of the Normandy D-Day landings testify to less settled times.	National	Many heritage assets are fragile and highly susceptible to loss or damage due to direct impacts or inappropriate management. The range of features present in the area allows for concentrated study of past human activity. Emphasis should be placed on the need to continue to protect and interpret the wealth of heritage present.	The protection of heritage assets should be ensured at every opportunity. Also, opportunities to enhance the setting, interpretation and legibility of heritage assets should be identified and realised. The restoration and conversion of vernacular buildings should be sympathetic, use local materials and preserve local distinctiveness.	**Sense of history** **Sense of place/ inspiration** **Recreation**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Tranquility	Expansive, 'wild' areas of moorland Undeveloped coast, secluded combes, ancient woodlands and deep valleys with fast – flowing rivers and streams Dark skies Few roads	A landscape of great tranquillity, with some 87 per cent of the area classified as undisturbed in CPRE's Intrusion Map (2007) and with a sense of calm evoked by open long views from high ground and the general diversity and 'naturalness' of the landscape. The lack of modern development and sparse settlement has resulted in very low levels of light pollution through much of the area. As a consequence, Exmoor National Park has been designated as only the second International Dark Skies Reserve, and the first in Europe.	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 such as the A361 North Devon link road, urban expansion of Barnstaple and localised coastal leisure facilities. The history of enclosure and agricultural traditions has resulted in few roads, extensive agricultural practices using relatively small agricultural equipment and scattered, small settlements and farmsteads. Wind farms in the west of the area, including the Fullabrook Down wind farm, are introducing a new, dynamic feature to the landscape, extending development into the intensely agricultural parts of the area.	The uncluttered and undeveloped character of the area should be protected and intrusion into the most rural areas avoided. In particular light pollution and light spillage from any new development should be prevented or minimised. Opportunities to conserve the sense of remoteness and 'wildness' should be taken. 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**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Recreation	Network of public rights of way Open Access and Common Land Access to the coast with a range of experiences South West Coast Path National Trail and many local trails 3 National Nature Reserves	Including Exmoor National Park, this is a landscape of great importance for tourism and recreation; both contemplative recreation and outward bound activities. Upland walking and pony trekking are popular activities. The coastal towns, such as Minehead (just outside the NCA) and Ilfracombe, offer more traditional seaside holiday experiences. More active beach and off-shore activities are experienced at places such as Braunton. Just under 14 per cent of the NCA is Open Access/ Common Land, and there are over 1,500 km of rights of way, including over 100 km of the South West Coast Path plus lengths of the Two Moors Way, Tarka Trail, Exe Valley Way, Coleridge Way, Macmillan Way, and Samaritan's Way. **Continued on next page...**	National	Despite the national significance for recreation of a large portion of this area (Exmoor National Park), it remains generally less well known and visited than similar places. While this contributes to the general sense of tranquillity and remoteness, opportunities for increased levels of access and recreation do exist. Much of the western half of the area is only lightly used and predominantly by local residents. The vast range of experiences available to visitors and residents allows for a dispersal of activities across much of the area.	Further opportunities for enhancements to the public rights of way network should be realised. Improved access opportunities should incorporate enhanced interpretation, particularly of heritage assets and features. Extend awareness of access and recreational opportunities available across the area, and particularly along the coast and through the National Park. Further expansion and development around Barnstaple and other larger settlements should incorporate enhanced access and recreation.	**Recreation** **Sense of place/ inspiration** **Tranquillity**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Recreation		**...continued from previous page.** Fishing, shooting and hunting remain more traditional recreational activities with a clear presence in the landscape. 3 National Nature Reserves provide access and interpretation of a wealth and diversity of nationally important habitats and species.				

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Biodiversity	Internationally and nationally designated sites and habitats	Much of the area supports an array and wealth of biodiversity. Within the boundaries of Exmoor National Park, all sixteen native species of bat have been recorded; 28 per cent of the area is afforded protection through national or international designation; and there are 3 National Nature Reserves and eighteen SSSI. To the west of the area Braunton Burrows is at the heart of the North Devon Biosphere Reserve and support a number of important and rare species associated with the dune system. The area supports an abundance of important vascular plants, invertebrates, ferns, mosses, liverworts and lichens and habitats such as Culm grassland, heath, blanket bog and western oak woods, which are internationally rare.	International/ National	Across much of the area many habitats occur in coherent and heterogeneous mosaics. Generally designated sites and habitats are in favourable or favourable recovering condition. Grazing regimes on steep slopes off the high moorland plateau and locally across the moorland are resulting in some scrub formation, old heather growth and increased bracken, and secondary woodland. Heath fritillary, high brown fritillary and to a lesser extent marsh fritillary butterflies have benefitted from concerted habitat management and creation work. Some moorland and farmland birds have seen marked increases in numbers for example grasshopper warbler, Dartford warbler and reed bunting, whereas others have seen marked declines for example redstart, ring ouzel and wheatear. Across much of the area appropriate management and grazing levels are key to maintaining habitat condition, whether management of woodland or grazing of grassland and moorland areas.	Concerted action should be taken to improve the condition of all important sites and habitats. Further action should be taken to increase the area of important habitats where possible, increase the connectivity of sites and habitats, and create more habitats where appropriate and possible.	**Biodiversity** **Sense of place/ inspiration**

Service	Assets/ attributes: main contributors to service	State	Main beneficiary	Analysis	Opportunities	Principal services offered by opportunities
Geodiversity	Dramatic and largest sea cliffs in England Nationally designated sites Historic, localised iron mining Local stone often used in vernacular buildings	There are currently 27 SSSI of or containing geological/ geomorphological interest and features. In addition, there are more than 100 local sites of geological interest. The wealth and variety of geology and geomorphology provides opportunities for study, reinforces local distinctiveness and, along the coast, helps to regulate flooding and erosion.	National	Geodiversity sites and features occur across the area with concentrations and particular features of interest along the coast, including hard rock features and coastal processes. Caves, quarries and fluvial geomorphological sites also feature in the rich range of geodiversity present. Geology and geomorphology also influence the aesthetic and cultural qualities of the area; the scale and drama of cliffs and dunes; the visible remains of prehistoric and bronze-age occupation; and local buildings and bridges.	Identify and realise opportunities for enhanced access to and recognition and understanding of geodiversity within the area. Maintain natural geomorphological processes, particularly along rivers and the coast that contribute to the regulation of coastal flooding. Support the use of local stone as a building material to help maintain local distinctiveness.	**Geodiversity** **Regulating coastal flooding and erosion** **Sense of place/ inspiration** **Sense of history** **Biodiversity**

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