National Character Area profile:

# 131. New Forest

Supporting documents



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# Introduction

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

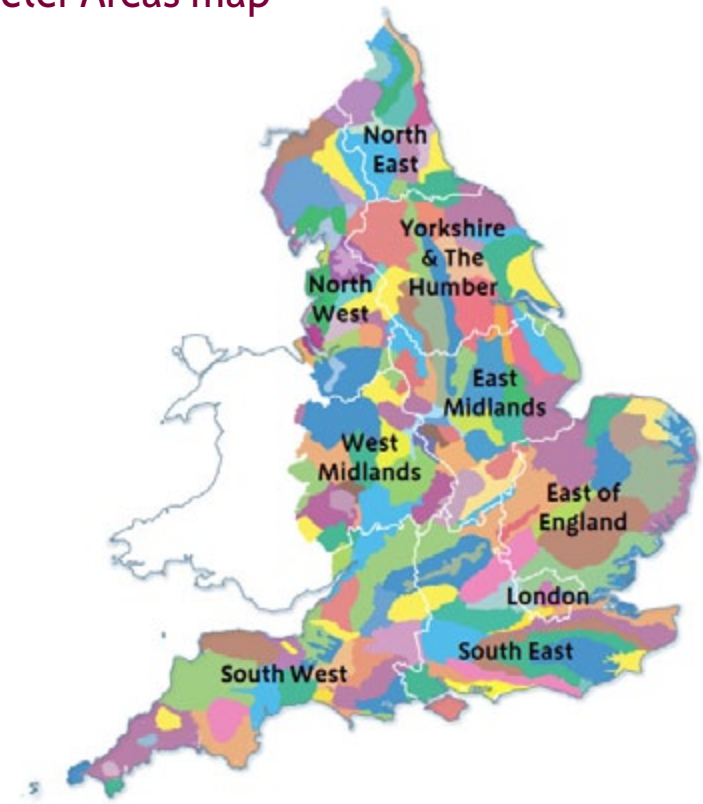
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and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

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

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

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

## National Character Areas map




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

# Summary

This National Character Area (NCA), 75 per cent of which is the New Forest National Park, also includes the lower Hampshire Avon Valley, defining its western boundary, and, to the east, the urbanised 'Waterside' from Totton to Fawley, with major oil-, energy- and port-related industry alongside Southampton Water. Physically it is a plateau, averaging around 80–100 m above sea level, of Palaeogenic deposits, which are exposed along the coast as internationally recognised fossil fauna, and overlain by Quaternary gravels in river terraces which retain evidence of prehistoric settlement. The gravels produce the acid soils which support the habitats and species designated under Natura 2000; it is one of the most important and extensive habitats of this type in lowland Europe. This has been retained, largely undisturbed by agriculture, because of its designation as a medieval royal hunting forest, the survival of grazing as part of a pastoral tradition, ancient Forest Law and more recent conservation policies. Along its Solent shore, the soft geology forms low cliffs and extensive marine deposition features – spits, salt marshes and mudflats – which are also designated under Natura 2000. The Avon Valley, also a Natura 2000 site, is distinctly different – a wide, flat valley bottom of mostly derelict watermeadows, and pasture and arable land, and a braided river, but linked with the Forest through grazing tradition.

In addition to the 'Waterside' there are major settlements at Ringwood, Fordingbridge and Lymington around the edge of the National Park, and large villages within it, notably Beaulieu, Brockenhurst, Burley, Lyndhurst and Sway. In the south-east the ancient Borough town of Christchurch (in Dorset) has spread to the east, over the Avon, extending in a large area of suburban housing along the coast to New Milton.

The core of the NCA is an area of contrasts; open heath, woodland and unenclosed wood pasture, characterised by ancient oak and beech, with New Forest ponies, cattle and pigs roaming free, areas of enclosed pasture in historic field patterns with commoners' farmsteads and small settlements. Together they evoke a special sense of place. The majority of this area is open access and has long been a popular destination for holidays and outdoor recreation, principally walking, horse riding, cycling, camping and caravanning, and it also has a long tradition of wildlife study and collecting. The coast has more limited access but the Solent Way, shingle beaches and marshes are also a popular destination, with sailing centres at Beaulieu, Lymington, Mudeford and Keyhaven. This core area was designated as a National Park in 2005.

Since it lies between two major areas of planned economic growth, the effects of new development have impacted heavily, particularly since the 1970s. Combined with trends, such as the popularity of rural lifestyles and increases in demand for outdoor recreation and tourism, the landscape is under intense pressure. Together with changing farming economics, this has affected the viability of commoning which is essential for retaining critical landscapes.


**Click map to enlarge; click again to reduce.**

## Statements of Environmental Opportunity

- **SEO 1:** Ensure that the internationally designated landscapes, habitats and species of the ancient woodland, wood pasture, inclosures, heaths and mires, forming the open access core of the National Park are maintained and enhanced, enabling them to support and benefit from the continuation of traditional commoners' grazing. This will help to retain the cultural and historic features of this landscape, and maintain multiple ecosystem service benefits, particularly biodiversity, water regulation, carbon sequestration, sense of place and tranquillity, and recreation.

- **SEO 2:** Conserve and improve local distinctiveness in the traditional commoners' smallholdings, enclosed pastures, farmsteads, hamlets and settlements on the Forest fringe. These have strong functional and habitat links with the heaths, woodlands and wood pastures, and reflect the historic social, cultural and pastoral economic traditions of the landscape. Retention of these links is essential to maintain habitats, support continued commoning and retain a key element of the visitor experience.

- **SEO 3:** Promote the extent of open access, the high-quality semi-natural environment and the strong sense of human history as a special landscape for recreation and tourism, and for the enhancement of health and wellbeing. Use opportunities to raise visitor awareness of these qualities, their sensitivities and management requirements, and the economic and social benefits of the visitor economy.

- **SEO 4:** Ensure that the features of the Solent and Southampton Water coast, particularly the internationally designated mudflats, saline lagoons, salt meadows and geo-archaeological features, are retained, while enabling the operation of natural coastal processes and anticipating the effects of climate change. This will benefit flood risk alleviation and recreational use, control coastal erosion and provide opportunities for habitat creation.

Hust Spit, in the shelter of which an important series of salt marshes and mudflats have formed.

- **SEO 5:** Support and develop the 'catchment project' across the internationally recognised aquatic environments of the New Forest, Hampshire Avon and Blackwater drainage systems. The aim will be to achieve co-ordinated and multiple benefits for habitats and species, recreational use, water and carbon retention and water quality, climate change resilience, flood regulation and flood alleviation while reducing soil erosion and agricultural run-off.

# Description

## Physical and functional links to other National Character Areas

Slightly elevated above its surroundings, the plateau at the heart of this National Character Area (NCA) with its dark tree line on the horizon is a visually distinctive feature from the Dorset Heaths to the west and the South Hampshire Lowlands to the east. It is also clearly visible from the higher ground of the South Downs National Park, only 15 km to the north-east. Visual links out from the area are dominated by those from the coast across the West Solent to the chalk ridge backbone and cliffs of the Isle of Wight, from the eastern heaths to the industrial skyline of Southampton Water, and from the western scarp over the Avon flood plain to Ringwood Forest on the Dorset Heaths.

The Avon Valley to the west, and the Lower Test/Southampton Water estuary to the east, physically delineate this NCA from adjacent NCAs, but also provide links through their common drainage system. Similarly, the coastline to the south defines the NCA, but its coastal processes, particularly through sediment drift, link it with adjacent coastal NCAs to the west and east. Only to the north does the NCA merge into the rising ground of the Salisbury Plain and West Wiltshire Downs, where the boundary is a gradual geological one. Even here, however, there is a link via the source and headwaters of the Hampshire Avon and River Test catchments which rise from the Chalk to the north, but drain south through this area to the Solent.

Along the coast the Solent Maritime Special Area of Conservation (SAC) links the NCA, in some places, with areas 500–800 m beyond the shoreline.

**The Hampshire Avon at Ibsley; a meandering wide main river crossed by elegant stone bridges.**

## Distinct area

The lower Hampshire Avon Valley.

## Key characteristics

- The core of the New Forest is a mixture of extensive, open rolling heaths and valley mires, inclosures[4] of broadleaf and coniferous plantation woodland, and large tracts of unenclosed ancient semi-natural mature oak and beech wood pasture.
- Free-roaming commoners' stock – donkeys, mules, ponies, cattle, pigs and sheep – which graze, and are responsible for the persistence of, this ancient landscape, are a common visual characteristic, particularly along roadsides and on the close-cropped verges, lawns and commons which run through some of the forest settlements.
- Around the fringe and within the forest core, areas of enclosed 'back-up' farmland, mixed woodland, heath-associated pasture and dispersed farmsteads, villages and hamlets. These areas have a more intimate character of small pastures and paddocks, enclosed by high hedgerows with many mature hedgerow trees and a network of narrow, winding, often sunken, lanes. An important area of enclosed land is detached from the main area to the north of the A36 in southern Test Valley.
- An undeveloped open, marshy coastal strip with shingle beaches and spits, backed by low, crumbling cliffs, with visually prominent clusters of stunted oak and pine.
- The broad, lush flood plain of the Hampshire Avon Valley with grazing cattle on the, mostly derelict, irrigated watermeadows and wet grasslands, the meandering wide main river crossed by elegant stone bridges, and a maze of carriers, ditches and braided streams. Gravel extraction from the valley floor has left several large open waterbodies. The towns of Fordingbridge and Ringwood have developed at bridging points on the river and Christchurch straddles the mouth of the river as it enters Christchurch Harbour.
- The quiet wooded tidal estuary and creeks of the Beaulieu River.
- Isolated farmhouses, cottages and hamlets with traditional buildings of brick, local stone and timber frames. They overlook heath and grazed common lawns, or are set in clearings within the ancient woodland. Plain tile or slate roofs have largely replaced traditional heather (rare), wheat straw or reed thatch. Smallholders' outbuildings, built of rough black boarding, corrugated tin or cob (often unrendered), complement these clusters.

[4] An inclosure' in the New Forest refers to an area of Crown Land that has been fenced, to exclude commoners' stock, for the purposes of growing timber. This is different to 'enclosed' land that usually refers, in the New Forest and elsewhere, to land enclosed for the purposes of farming.

**Landforms are dramatically open, with extensive heaths cut by eroded valleys.**

- Courtyard farmsteads, some large scale, on the coastal plain and in the Avon Valley.
- Distant skyline views from the eastern heaths of the chimneys, cranes and structures of the oil refinery, power station, incinerator and docks of Southampton Water.
- The 'Waterside' an urbanised and industrialised strip east of the A326 trunk road, including Marchwood, Hythe and Dibden, Fawley oil refinery and power station, and the Southampton Water/Test Estuary shoreline of salt marsh and mudflats. Remnants of the forest stretch through the urbanised area to the coast and have been protected from development as 'strategic' or 'local' gaps.
- The urban/suburban area of Christchurch, Highcliffe, Barton on Sea and New Milton, with large areas of pre- and post-Second World War suburban housing and holiday developments along the beaches and cliff-tops, inland of Christchurch Bay.
- The constant, visible and very audible, impact from traffic on the A31 (bisecting the forest), the A36 (forming the north-eastern boundary of the National Park), and other main roads connecting the main settlements and crossing open heaths. More intermittently, planes from Bournemouth and Southampton airports add to the disturbance of tranquillity.
- The historic settlements of Beaulieu and Lyndhurst, and the major villages of Ashurst, Brockenhurst, Burley and Sway, which retain strong connections with the forest. They also provide facilities for the tourism industry and are the main centres of population in the National Park.
- As a common, and now enshrined in open access legislation, the core of the New Forest has largely unrestricted public access over the whole area. The Crown lands also have an historic right of access on foot and horse.

**Views from the eastern heaths of the chimneys, cranes and structures of Southampton Water.**

**Traditional buildings of brick, overlooking heaths and grazed common lawns.**

## New Forest today

The majority of the NCA is an elevated plateau, rising to 120 m, on the western flank of the Hampshire Basin, sloping gently south to the Solent coast, with a steep, partially wooded escarpment marking its western edge. Beyond this, to the west, is the clearly defined flat-bottomed valley of the Hampshire Avon.

The core of the area is a landscape of contrasts, arising from its unique combination of heaths and valley mires, patches of gorse, bracken, birch and pine, inclosures of broadleaf and coniferous woodland, and large tracts of unenclosed, ancient semi-natural mature oak and beech wood pasture. To the north of the A31 trunk road landforms are dramatically open, with extensive heaths, cut by steeply eroded valleys, and clearly defined blocks of plantations. South of the A31 the landscape is more verdant with open lawns, commons, larger areas of semi-natural woodland and wood pasture as well as large areas of heath and inclosures. The majority of this core area is open access land.

Around the edge of the core, to the west, north and east are areas of 'back-up' farmland and smallholdings with small pastures linked to the commoning traditions of pastoral farming. These small settlements, hamlets and farmsteads are linked by a network of narrow, winding lanes, often sunken in banks and high hedgerows. Mature hedgerow oaks give these fringe forest areas a wooded feel.

There is a strong sense of history throughout, expressed through the continuity of open woodland and heath, grading gently into each other, and the influence of the ever-present grazing animals. Ponies and cattle graze road verges and commons, small herds of pigs feed off the woodland floor and deer are seen moving through woods or across heaths. The impact of grazing is a constant,

**Large areas of semi-natural woodland and wood pasture.**

visible through the close-cropped swards and lawns, tightly nibbled clumps of gorse and the browse line of trees and hedgerows.

To the south, running down to the Solent coast, is a landscape of large farmed estates on more fertile ground. This is dominated by large, mostly arable, fields with low hedgerows, generally the result of enclosure by agreement from the 17th century and earlier monastic estates, although there are some areas of smaller irregular fields set among small blocks of woodland which are medieval in origin. The influence of the forest is less evident here.

The main drainage pattern of the plateau is dominated by the Lymington River, Beaulieu River and Avon Water which drain south directly to the West Solent. To the north-east the River Blackwater and Bartley Water drain east to the River Test, and in the north and west several ecologically important streams drain directly off the western escarpment to the Hampshire Avon which flows south to Christchurch Harbour. Although the Avon is a major river, marking the western edge of the area, the majority of its catchment and source falls within the chalk downs of north Hampshire and Wiltshire outside this NCA. This is a valuable water resource for the south-east Dorset and Bournemouth conurbations. Apart from some agricultural and forestry drainage channels, and flow management structures in the Avon Valley, the watercourses of this landscape generally follow their natural courses.

The exposed soft geology along the West Solent and Southampton Water shore forms a generally low, easily eroded coastline, but with cliffs up to 30 m towards Christchurch Harbour. Coastal processes have produced several deposition features formed by the eastward drift of eroded sedimentary material, notably the archetypal Hurst Beach and Spit at Keyhaven, and Calshot Spit, in the shelter of which an important series of salt marshes and mudflats have formed and are protected. These are at their most extensive at the mouths of the main estuaries.

East of Hurst Spit the coast is relatively undeveloped, although modified by groynes and sea walls, and has a quiet, wild, exposed aura, unusual for the area, with the attractive creeks and estuaries of the Lymington and Beaulieu rivers. This contrasts with Lymington town, at the mouth of the estuary, the commercial, administrative, tourism and yachting centre of the southern part of the New Forest, with a ferry service to the Isle of Wight.

West of Hurst Spit much of the coastal belt is developed above the cliff line, with large areas of suburban housing around the expanded villages of New Milton, Milford on Sea, Barton on Sea and Highcliffe, which join up with Christchurch at the eastern end of the Bournemouth/Poole conurbation.

Between the marshes, mudflats and creeks of Southampton Water and the A326 road is a distinct, but relatively contained, area of urban, commercial and industrial development known locally as the 'Waterside'. Functionally this is part of the Southampton conurbation and has developed around Fawley oil refinery and power station and various port facilities associated with the city region and its water-based economy.

The core of the NCA is the largest area of unsown vegetation in lowland England and includes, on a large scale, habitat formations formerly common but now fragmented and rare in lowland western Europe. They include lowland heath, valley and seepage step mire, or fen, and ancient pasture woodland, including riparian and bog woodland. Nowhere else do these habitats occur in combination and on so large a scale. It is also one of the last remaining extensive systems of common rights and pastoral farming in lowland Europe. These factors are inextricably linked and the grazing of commoners' stock is critical to the shaping of the landscape and the habitats and species represented.

It is recognised as one of the most important areas of protected habitat in Europe. The majority of the open forest, the Avon Valley and the coast, from Hurst Spit to the lower Test, are designated as either Special Areas of Conservation (SAC) or Special Protection Areas (SPA), and in many cases both. The New Forest Site of Special Scientific Interest (SSSI), covering nearly 29,000 ha, is almost coterminous with the New Forest SAC and SPA, is the second largest SSSI in England, and 20 further SSSI are designated across the area. The streams, ponds, wet heaths

and woodlands are also recognised under the Ramsar convention for their assemblages of rare and scarce wetland plants and invertebrates.

The designated habitats of the New Forest SAC are the oligotrophic standing waters, lowland wet and dry heaths, valley mires, bogs and fens, Molinia meadows (lawns) and the beech, oak, bog and alluvial woodlands. Designated SAC species are the southern damselfly, great crested newt and stag beetle. The New Forest SPA is designated because of breeding populations of nightjar, woodlark, wood and Dartford warbler, honey buzzard and hobby, and wintering hen harrier. These two Natura 2000 designations cover similar areas.

Along the coast the Solent and Isle of Wight SAC contains important coastal lagoons in the Keyhaven–Pennington area, while the Solent Maritime SAC, which extends below high water, covers the main estuarine systems, Spartina grass and Atlantic salt meadows, well known for their sea lavender. The mudflats, marshes and waters of the Solent and Southampton Water SPA, which extend beyond this NCA and covers most of the Hampshire coast, are designated for wintering populations of Brent goose, black-tailed godwit, teal and ringed plover, and breeding populations of four species of tern and the Mediterranean gull.

The smaller Avon Valley SAC, including streams that extend into the National Park, is designated for its salmon, lamprey and bullhead, and several species of water crowfoot. The Avon SPA supports Bewick's swan and gadwall in winter.

The designated SAC and SPA habitats and species do not, however, fully illustrate the biodiversity of the NCA or its international importance. For example; the area of mire system is thought to be greater than that which survives in the rest of Britain and Western Europe; some stream plant communities are restricted almost exclusively to the New Forest; half of all British butterflies and moths and a third

**A sense of history expressed through the continuity of heath and open woodland.**

of all beetles have been recorded; populations of all native reptiles are present with the smooth snake population particularly important; species such as the wild gladiolus and New Forest cicada are unique to the New Forest in Britain; heath and wood pasture support several rare and scarce lichen and fungi, many of them grazing dependent; and the wetlands, collectively, are probably the single most important suite of habitats for dragonflies in Britain.

The combination of special qualities made the New Forest a very popular destination for outdoor recreation and tourism from the early 20th century, and before that a well-known destination for Victorian collectors. Its easily accessible

attractions, transport links and location close to the populations of southern England, continue to generate increasing numbers of visitors, nationally and internationally. The most recent figures[5] are 13.5 million visitor days a year, of which 60 per cent are day visitors and 40 per cent stay overnight, making this a precious national recreation and tourism asset. Walking, off-road cycling and horse riding are the most popular outdoor activities. In addition to the attractions of the natural environment, there are also key visitor attractions such as Beaulieu Abbey and Motor Museum, Bucklers Hard Maritime Museum, Exbury Gardens, Lepe Country Park and Paulton's Theme Park. Camping and caravanning are very popular and the Forestry Commission operates several large sites, notably Ashurst, Holmsley, Hollands Wood and Roundhill. Sandy Balls, near Godshill, is a large holiday centre with chalets, caravans and camping areas.

After many years during which the New Forest was protected through various designations and policies in development plans, the New Forest National Park was created in 2005 to secure its long-term future and management, on behalf of the nation, for its natural environment and recreation opportunities.

**Free roaming commoners' stock.**

[5] New Forest Visitor Survey 2005

## The landscape through time

The underlying geology of the NCA is a variety of Palaeogenic marine deposits of clays, marls and sands, overlain to various depths by Quaternary flint gravels and other material laid down by post-glacial river systems. The fossil fauna of the marine deposits, exposed in the Barton Beds and Headon Beds, are designated as a geological SSSI (Highcliffe to Milford Cliffs), and the gravel terraces are a rich source of archaeological evidence of early human occupation. The poor agricultural quality of the acidic heathland soils resulting from this geology has been one of the key factors in the NCA's survival as an ancient uncultivated landscape.

There is evidence that woodland was cleared for agriculture in prehistoric times but, as nutrients leached out quickly from the free-draining acidic soils, the impoverished land was abandoned for the more fertile soils of the valleys and the coast. As a result areas of heath developed within a thinly wooded landscape. A number of bronze-age round barrows and iron-age field systems and defensive hill forts remain visible in the landscape. The Romans used the area for the resources it offered, notably wood fuel, sand and clay. A pottery industry was established, with several kiln sites located within the area, and pottery from here was distributed to Roman sites throughout southern Britain until the 5th century ad. Sandy Balls – a reference to the sand and gravel formations – remains today a popular holiday resort where the pottery tradition is part of the offer.

Originally known as Ytene, the place of the Jutes, the extensive area of heath was appropriated as a royal hunting ground, with communal rights over the land, from at least the time of Edward the Confessor. William the Conqueror claimed the area – the 'Nova Foresta' – creating the Perambulation (the area originally subject to ancient Forest Law), comprising Crown and private land, which survives largely intact today. The royal influence remains in several places, such as the popular (King) Rufus Stone picnic site and several hunting lodge remains. The primary concern of Forest Law was the protection of deer for the benefit of the monarch, and smallholders were prevented from enclosing land and given rights of common instead. These included various rights to graze ponies, mules, cattle, donkeys and sheep, to run pigs out to eat acorns in the autumn (mast or pannage), to collect turves of peat for fuel (turbary) and to take marl as a soil improver. Over time Forest Law became more concerned with the needs of the commoners than of the Crown, and

**Barton Cliffs, designated as a geological SSSI.**

grazing over the forest reduced the amount of land for subsistence farming often undertaken with by-employment in woodland industries.

In the 17th century an Act of Parliament was passed to permit the 'inclosure' of land to enable timber to be grown and allow the planting and regeneration of trees, particularly in hedgerows. The valuable source of oak woodland, and its proximity to the sea and Portsmouth Naval Dockyard, had resulted in exploitation for timber, and further Acts were passed to encourage oak regeneration in order to meet the demands of ship-building and other uses. Conservation of a local centre of ship-building, Bucklers Hard on the Beaulieu River, has now created a major visitor attraction.

Over time the numbers of stock put out to graze by commoners increased, reaching a peak during the 18th century when there were an estimated 7,000 to 9,000, with similar numbers of deer. Friction between interests continued and the area of enclosed land increased through the 19th century until 1877 when the New Forest Act, referred to by some as the Commoners' Charter, changed the whole nature of the relationship between the Crown and the commoners. This Act removed the powers of the Crown to enclose land, effectively ended the ancient Forest Law, introduced the first measures to deal with amenity use of the forest, and reconstituted the Verderers' Court. This is an ancient legal system administered by verderers, elected to protect the rights of commoners, and agisters, employed to oversee the welfare of commoners' livestock. The court was further reconstituted and given greater powers by the 1949 Act. Since 1924 the Forestry Commission has managed and administered the Crown lands.

Beaulieu Abbey, a Cistercian house at the head of the Beaulieu River estuary, founded by King John, played a significant role in the drainage and improvement of the land for farming on the coastal fringe in the 12th and 13th

**A local centre of shipbuilding, Bucklers Hard, now a major visitor attraction.**

centuries when large estates and corn-growing farms developed after the Dissolution of the Monasteries. A salt-making industry developed along the coast, evidence of which can be seen west of Lymington in sea walls built up to contain salterns, and remains of a salt water boiling house and a dock.

During the Second World War a number of airfields were built and although these have now been abandoned and are returning to heath, their footprint on the landscape remains clear. Many of the concrete roads and dispersal areas remain, often used as car parks or caravan stands. The coast retains slipways and other features associated with the D-Day embarkations. As recently as the 1960s the New Forest was included as an option in the search for a site for the 'third London airport'.

Regional development pressure and economic growth in the expanding conurbations of south Hampshire and Bournemouth from the 1960s onwards resulted in the designation of the New Forest as greenbelt in the South West Hampshire Structure Plan. This had the effect of preventing further built encroachment on the forest and assisted in its conservation and management. A small area of this now designated as part of the South East Dorset Green Belt, in the south-west outside the National Park, in an arc from Highcliffe to Ringwood.

Development pressure has continued, resulting in recent large-scale housing developments along the Waterside, around Ringwood and along the Christchurch/New Milton coast. Commercial and industrial activity along Southampton Water continues to expand, adding to the existing waste incinerator, oil refinery and power station, and traffic at Bournemouth Airport continues to grow. The Forest has also experienced a large increase in outdoor recreation, particularly from car-borne visitors locally, nationally and internationally, and in the popularity of, for example, horse keeping and sailing, both of which have had impacts on the landscape. Recent increases in traffic along the A31, and other main roads across the NCA, have had a major influence on tranquillity and pollution. In contrast, the innovative 40 mph speed limit across most of the National Park and the installation of posts ('dragons' teeth') and ditches to prevent vehicles driving onto the commons have helped to reduce the impact of vehicles and erosion.

In 1989 an unelected, non-statutory New Forest Committee was formed, comprising organisations with an interest in managing its assets and use. In 1994 this resulted in replacement of the greenbelt by the New Forest Heritage Area which gave planning protection 'as if it were a National Park' because of its combination of recreational, landscape and biodiversity importance. This was

**The right to run pigs out in the autumn.**

a precursor to its designation as a National Park in 2005, covering 75 per cent (570 km2) of the NCA, the first in southern England and the smallest, apart from the Norfolk Broads. The Forestry Commission remains directly responsible for the Crown lands within the National Park, while the National Park Authority is the planning authority for the whole park and works with the Commission and others on land management, recreation, socio-economic policy and environmental education.

## Ecosystem services

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

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

- **Food provision:** Livestock rearing and dairying by commoners is widespread in the open forest, providing high-quality products which are locally significant and an attraction for tourists. The arable area along the coast consisted in the past mainly of market gardening, taking advantage of its proximity to large urban areas and the Southampton dock trade and the favourable growing conditions. This has largely been replaced by grain and fodder crops which have long been a significant feature of the Avon Valley and the coastal belt.

- **Timber provision:** The large hardwood and softwood timber resource is of national significance. It supports a commercial industry and employment locally. Although this is small scale compared with the size of the resource, employment in forestry is important as a supplement to commoners' incomes. There is an expanding market for locally produced timber framing, furniture and craft products.

- **Biomass energy:** By-products from forestry support regionally significant biomass plants. There is identified potential for a larger supply from private sector woodland which requires an expansion of traditional management techniques and focused marketing.

- **Water availability:** Minor aquifers on the heath areas support agricultural small-scale surface and groundwater extraction for commoners' stock. The Hampshire Avon is a major public water resource for south-east Dorset and parts of Hampshire but most of the catchment is to the north of the NCA.

- **Genetic diversity:** Some commoners' stock is made up of rare breeds. The New Forest pony is indigenous to the area and is a recognised mountain and moorland pony breed in the UK.

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

- **Climate regulation:** Carbon sequestration and transpiration levels of the wet heaths and large- scale permanent woodland vegetation cover are nationally significant. The capacity of the wet heath habitat to absorb carbon from the atmosphere is being potentially reduced by drying out as a result of land drainage. This is being addressed by various 'wetting' projects.

- **Regulating soil erosion:** Uncultivated wet heath soils have good structure and only suffer from erosion through compaction or surface damage, particularly on slopes. Loamy soils in arable areas require careful management to retain organic matter and structure or become prone to wind and water erosion. Both the Hampshire Avon and Blackwater have high run-off sediment levels, which is being addressed by Water Framework Directive and catchment management activity.

- **Regulating soil quality:** Soils on uncultivated heaths are of poor quality but high water retention which is threatened by surface erosion, compaction and drying out. The cultivated loamy soils require good maintenance to retain soil structure.

- **Regulating water quality:** Uncultivated soils and peats of the heaths and large-scale permanent semi-natural vegetation cover provide clean water to the smaller streams and aquifers, but agricultural run-off and sediment from arable areas have resulted in poor quality in the Hampshire Avon and Blackwater.

- **Regulating water flow:** The permanent semi-natural habitats play an important part in water retention and therefore regulating water flow, but this has been affected by drainage operations which have increased the likelihood of flash flooding in smaller streams. The Avon flood plain is a regionally significant water regulation feature.

- **Regulating coastal flooding and erosion:** Coastal processes along the Solent shore have created major deposition features which, while they remain intact, perform nationally important coastal flood regulation and erosion control. These are threatened by sea level rise and increasing storm events.

### Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration:** The contrast of heath, salt marsh and estuary, and open semi-natural ancient woodland, with the enclosed pastures, farmsteads and settlements of the back-up lands, produces a sense of place and inspiration that is rare in southern Britain and valued by many. The presence of this landscape in a heavily urbanised and populated region adds to its significance and quality.

- **Sense of history:** There is abundant and extensive evidence of early settlement and ritual sites, and the landscape has been shaped by early clearance and interaction with human activity since prehistoric times. The area has the highest concentration of ancient and veteran trees in England, providing a link with the significance of the medieval hunting forest, the commoning tradition and the early development of ship-building.

- **Tranquillity:** Levels of tranquillity and dark skies are very high, particularly for the region, and an important part of the visitor experience. These are being eroded and threatened by light pollution, and noise from aircraft and traffic. Access to wild open spaces and the presence of, for example, veteran oak trees, provides a rare opportunity for freedom, escape and contemplation.

- **Recreation:** The National Park, including its shoreline and offshore waters, with its visitor attractions and facilities, and around 30,000 ha of open access land, is a nationally significant recreation resource.

- **Biodiversity:** International designations, many of them overlapping because of multiple species and habitat interests, make up 40 per cent of the NCA. This includes, on a large scale, habitat formations formerly common but now fragmented and rare in lowland western Europe. They include lowland heath, valley and seepage step mire, or fen, and ancient pasture woodland, including riparian and bog woodland. Nowhere else do these habitats, and the species associated with them, occur in combination and on so large a scale.

- **Geodiversity:** Cliffs from Highcliffe to Milford on Sea expose the internationally recognised Barton and Headon Beds of Palaeogenic fossils and are designated as a geological SSSI.

# Statements of Environmental Opportunity

**SEO 1: Ensure that the internationally designated landscapes, habitats and species of the ancient woodland, wood pasture, inclosures, heaths and mires, forming the open access core of the National Park are maintained and enhanced, enabling them to support and benefit from the continuation of traditional commoners' grazing. This will help to retain the cultural and historic features of this landscape, and maintain multiple ecosystem service benefits, particularly biodiversity, water regulation, carbon sequestration, sense of place and tranquillity, and recreation.**

**For example, by:**

- Maintaining appropriate levels of commoners' grazing and vegetation management, on heath and wood pasture, to improve the condition of internationally designated semi-natural habitat, assist natural regeneration, promote a varied age structure, expand and link remnant areas, enhance biodiversity, and control invasive and alien species. This will also facilitate the continuation of the traditional pastoral economy and maintain the presence of commoners' grazing stock which is an essential element in the sense of place and history, and of the visitor experience.
- Continuing woodland management, consistent with the Forest Design Plan and Crownland Management Plan, aimed at gradually increasing the proportion of native hardwood species, maintaining species and age diversity, encouraging natural regeneration, extending wood pasture, and reducing the extent of non-native species and the landscape impact of large coniferous blocks. This could also beneficially include measures to increase resilience to climate change and the associated increases in the incidence of pests and disease. Selective timber production in the form of high-quality hardwoods for construction and furniture, and continued clearance of softwoods, particularly as a biomass resource, would benefit from these activities, and there are links between the woodland industry and the viability of commoning.
- Ensuring that land management measures address the importance and condition of historic and archaeological features, particularly those associated with the long history of human occupation, and traditional land use practices – such as grazing, hunting and ship-building – which shaped this landscape. Appropriate management will respect and retain their presence and improve their condition, character, interpretation and landscape setting. The presence of links with historic practices and human utilisation is an important element of the tourism and recreation attraction.
- Conserving and improving the internationally recognised tranquil and dark-sky qualities by influencing built development, transport and major infrastructure proposals. Raising awareness and supporting the activities of local authorities and other partners will also help to enhance these aspects of the landscape, important for both recreation and sense of place.
- Developing and supporting the 'Growing the Forest'[6] initiative, and utilising areas identified under the Biodiversity Opportunity Area and similar exercises, to promote a landscape scale approach aimed at expanding the area to which heath, wetland, woodland and wood - pasture conservation and management is applied. This is likely to involve areas beyond the boundaries of the National Park and possibly link with areas of similar landscape in adjacent NCAs.

[6] 'Growing the Forest' was an unsuccessful bid for NIA status but remains a potential vehicle for partnership working that is being promoted by the National Park Authority.

**SEO 2: Conserve and improve local distinctiveness in the traditional commoners' smallholdings, enclosed pastures, farmsteads, hamlets and settlements on the Forest fringe. These have strong functional and habitat links with the heaths, woodlands and wood pastures, and reflect the historic social, cultural and pastoral economic traditions of the landscape. Retention of these links is essential to maintain habitats, support continued commoning and retain a key element of the visitor experience.**

**For example, by:**

- Retaining and enhancing the historic patterns of enclosed pasture for back-up commoners' grazing, resisting their subdivision and enlargement, and encouraging the provision of commoners' housing and sympathetic farm diversification schemes that have clear potential landscape benefits, as exceptions to policy. Joint working with major landowners and estate managers will be an essential element of this activity.
- Providing advice and support to land managers and owners of enclosed land on the management of unimproved acid/neutral grassland, their historic boundaries (hedges, ditches, verges and boundary trees) small woodlands and recognised local wildlife sites. This will maintain traditional landscapes and their links with the traditions of the open forest, enhance habitats and species, maximise the availability of quality back-up grazing, reduce run-off, enhance water quality and increase flood alleviation.
- Supporting initiatives by the local planning authorities and other partners to conserve, raise awareness and encourage retention of the key characteristics of historic architecture which define local distinctiveness, the importance of design, the use of traditional local materials, and the impact of signage, lighting and boundary treatment on the local built and natural environments.
- Controlling development in sensitive areas, and, where it is permitted, ensuring that any new development is consistent with local character and contributes positively to the objectives of landscape, habitat and species management.
- Working with managers and owners to encourage and support improved management of private woodland, to enhance habitats and species diversity, capitalise on opportunities for renewable fuel and other wood product marketing, and potentially extend the area of heath and wood pasture.
- Support the use of traditional New Forest pony, cattle and pig breeds to maintain local distinctiveness and blood lines, retain the visible link with traditional practices that enrich the landscape, enhance the visitor experience and provide niche local produce.

**SEO 3: Promote the extent of open access, the high-quality semi-natural environment and the strong sense of human history as a special landscape for recreation and tourism, and for the enhancement of health and wellbeing. Use opportunities to raise visitor awareness of these qualities, their sensitivities and management requirements, and the economic and social benefits of the visitor economy.**

**For example, by:**

- Through recreation management strategies, ensuring that the network of visitor facilities, access points, attractions and educational opportunities, enhances appreciation and understanding of the landscape, and encourages its responsible use, balanced with the need to manage impacts on sensitive habitats and species. This may require seasonal or temporary management, for example to protect nesting birds or through the introduction of access controls during very popular periods.
- Developing and pursuing partnership initiatives, including the involvement of local communities and user groups within the NCA and in adjacent urban areas, to raise awareness of the potential impacts of various recreational activities and behaviours on other users and on the special qualities of the landscape, particularly impacts on commoners' stock and the sense of tranquillity.
- Securing the provision of additional green and blue infrastructure and outdoor recreational facilities within the New Forest and in adjacent areas, linked with the development and economic growth in south Hampshire, south-east Dorset and Wiltshire, designed to provide alternative destinations in areas that are less environmentally sensitive and close to major centres of population. The Test Valley Forest Park proposal has significant potential in this respect.

**SEO 4: Ensure that the features of the Solent and Southampton Water coast, particularly the internationally designated mudflats, saline lagoons, salt meadows and geo-archaeological features, are retained, while enabling the operation of natural coastal processes and anticipating the effects of climate change. This will benefit flood risk alleviation and recreational use, control coastal erosion and provide opportunities for habitat creation.**

**For example, by:**

- Maintaining appropriate levels of grazing on salt marsh and beaches to improve the condition of internationally designated semi-natural habitat, expand and link remnant areas and enhance biodiversity. This will facilitate the continuation of the traditional pastoral economy and maintain the presence of commoners' grazing stock which is an essential element in the sense of place and history, and of the visitor experience of the New Forest coast.
- Managing water levels to enhance conditions for wintering and breeding birds which will enhance biodiversity and recreation use, and retain important salt marsh and reedbed habitats.
- Working with landowners and land managers on the potential for managed realignment of the coastline consistently with the Shoreline Management Plan, and managing the impact on coastal habitats. Some areas may be lost and need to be re-created inland.
- Working with coastal communities and private landowners to raise awareness of the dynamism of coastal processes, the need for mitigation land to encourage natural physical processes and habitat retreat, and the role of coastal features in flood regulation and alleviation.
- Developing geodiversity awareness in the National Character Area, focusing on the Barton Cliffs geological Site of Special Scientific Interest and the management required to maintain its condition.

**SEO 5: Support and develop the 'catchment project' across the internationally recognised aquatic environments of the New Forest, Hampshire Avon and Blackwater drainage systems. The aim will be to achieve co-ordinated and multiple benefits for habitats and species, recreational use, water and carbon retention and water quality, climate change resilience, flood regulation and flood alleviation while reducing soil erosion and agricultural run-off.**

**For example, by:**

- Working with partners to develop a landscape scale strategy to improve the management and raise awareness of the aquatic environments of the New Forest, recognised by their Ramsar designation, and taking advantage of existing projects such as the Million Ponds Project, the New Forest Pondscape Project and Water Framework Directive initiatives and resources.
- Restoring the natural functioning courses of the New Forest streams to improve and enhance the hydrology of their wet heath and valley mire habitats.
- Implementing a dedicated and integrated management approach to the lower Hampshire Avon to create a naturally functioning river system to improve habitats and species and produce a river re-connected with its flood plain and watermeadows, resilient to climate change and reflecting its historic and cultural heritage. Co-operative working with landowners and land managers to explore this and address the land management implications will be essential.
- Developing a collaborative working approach to identify solutions and continuation of the programme aimed at the eradication of non-native invasive species.

**Rare and scarce wetlands valued for their plant and invertebrate communities.**

# Supporting document 1: Key facts and data

Total area: 73,767 ha

## 1. Landscape and nature conservation designations

Around 75 per cent of the NCA (56,658 ha) is covered by the New Forest National Park which lies entirely within the NCA.

Management Plans for the protected landscape can be found at: www.newforestnpa.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 | New Forest ; Avon Valley; Solent & Southampton Water; Dorset Heathlands | 30,401 | 41 |
| European | Special Protection Area (SPA) | New Forest SPA; Avon Valley SPA Solent & Southampton Water SPA; Dorset Heathlands SPA; | 30,383 | 41 |
| | Special Area of Conservation (SAC) | New Forest, Solent Maritime SAC; River Avon SAC; Dorset Heaths SAC; Solent & Isle of Wight Lagoons SAC | 29,860 | 40 |
| National | National Nature Reserve (NNR) | North Solent NNR, Langley Wood NNR, Kingston Great Common NNR | 980 | 1 |
| National | Site of Special Scientific Interest (SSSI) | A total of 26 sites wholly or partly within the NCA | 32,991 | 44 |

**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 576 local sites in the New Forest covering 4,599 ha which is 6 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: 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 land in category condition |
|---|---|---|
| Unfavourable declining | 742 | 2 |
| Favourable | 11,102 | 34 |
| Unfavourable no change | 462 | 1 |
| Unfavourable recovering | 20,342 | 62 |

**Source: Natural England (March 2011)**

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

## 2. Landform, geology and soils

### 2.1 Elevation

The central plateau rises to 126 m in the north of the area, around Black Bush Plain, and slopes gently down to sea level along the New Forest shore.

**Source: New Forest Countryside Character area description**

### 2.2 Landform and process

The New Forest is at the heart of a broad and shallow syncline (geological basin) known as the Hampshire Basin which broadly delineates the catchment of rivers draining into the Solent and Christchurch Bay. Sedimentary features such as shingle spits, beaches and salt marshes and eroding coastlines along the New Forest shore provide classic examples of these features and opportunities to study modern coastal processes.

**Source: New Forest Countryside Character area description**

### 2.3 Bedrock geology

The geology of the New Forest is defined by the Alpine Orogeny (mountain-building episode). The Chalk and deeper rocks form a syncline which borders and underlies the NCA. The Chalk was laid down in a shallow warm sea during the Cretaceous to which it gives its name. During the Tertiary, London Clay – shallow marine sediment – was laid down over the Chalk. Overlying the London Clay are the Bagshot, Barton and Bracklesham Beds of sands and clays which were deposited on a large coastal plain. The latter form the great bulk of the surface geology of the New Forest.

**Source: New Forest Countryside Character area description, New Forest Natural Area Profile, British Geological Survey maps**

### 2.4 Superficial deposits

River gravel terraces deposited during the Quaternary period (last 2 million years) occur much of the south of the area with nationally important exposures in the low cliffs between the Beaulieu River and Southampton Water and gravel pits in the open New Forest.

**Source: New Forest Countryside Character area description, New Forest Natural Area Profile, British Geological Survey maps**

### 2.5 Designated geological sites

| Tier | Designation | Number |
|---|---|---|
| National | Geological Site of Special Scientific Interest (SSSI) | 1 |
| National | Mixed interest SSSI | 4 |
| Local | Local Geological Sites | 0 |

**Source: Natural England (2011)**

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

### 2.6 Soils and Agricultural Land Classification

Complex patterns of variable soils and local drainage occur. The sands and clays give rise to poor, infertile and acidic soils although the ones of marine origin tend to produce slightly better, less acidic soils. Peat and alluvium occur in the valley bottoms. Throughout there are close links between landform, soils and vegetation, with enclosed and farmed land on the better quality land and heath on the most acidic and impoverished soils.

**Source: New Forest Natural Area Profile**

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 | 71 | <1 |
| Grade 2 | 6,113 | 8 |
| Grade 3 | 10,857 | 15 |
| Grade 4 | 16,205 | 22 |
| Grade 5 | 18,299 | 25 |
| Non-agricultural | 17,318 | 23 |
| Urban | 4,587 | 6 |

**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) |
|---|---|
| Hampshire Avon | 42 |
| Beaulieu River | 27 |
| Lymington River | 21 |

**Source: Natural England (2010)**

The drainage pattern of the NCA is determined by the three main surface water catchments. Along the western boundary of the area the broad north–south valley of the River Avon, which rises outside the NCA, is fed by six streams flowing westwards from the New Forest plateau. In the east two streams, Bartley Water and the Cadnam River, flow eastwards to the Lower Test, and to the south three rivers, the Lymington River, Beaulieu River and Avon Water, flow directly in to the Solent.

**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 16,787 ha or 22 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

The NCA contain 23,125 ha of woodland (31 per cent of the total area), of which 9,760 ha is ancient woodland.

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

### 4.2 Distribution and size of woodland and trees in the landscape

The ancient pasture woodlands of the New Forest represent one of the highest densities of ancient and veteran trees in North West Europe, and one of the largest tracts of semi-natural woodland in southern England. Elsewhere the enclosure woodlands consist mainly of younger oak woods and conifer plantations.

**Source: 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 | 15,495 | 21 |
| Coniferous | 6,054 | 8 |
| Mixed | 796 | 1 |
| Other | 780 | 1 |

**Source: Forestry Commission (2011)**

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

| Woodland type | Area (ha) | Percentage of NCA |
|---|---|---|
| Ancient semi-natural woodland | 7,405 | 10 |
| Ancient re-planted woodland (PAWS) | 2,354 | 3 |

**Source: Natural England (2004)**

## 5. Boundary features and patterns

### 5.1 Boundary features

At the core of the area the Crown lands of the New Forest are characterised by large tracts of open, unenclosed land within which are fenced enclosures of managed woodland. Small enclosed fields and paddocks in and on the edge of the central core are bounded by hedgerows and used for recreational horse paddocks, livestock rearing and back-up grazing. Arable land uses predominate in the south on the richer agricultural soils sloping towards the coast, where large regular fields are bounded by neat, low hedgerows with hedgerow oaks.Between 1999 and 2003 Countryside Stewardship capital agreements for linear features included fencing (14 km), hedgerow management (7 km), hedgerow planting and restoration (14 km) and restored boundary protection (7 km). There were also agreements for the creation of permanent grass margins greater than 6 m (42 km), and 2 m arable margins (22 km). The estimated boundary length for the NCA is 10,676 km. The total length of agreements between 1999 and 2003 is equivalent to about 4 per cent of this total.

**Source: New Forest Countryside Character Area description; Countryside Quality Counts (2003)**

### 5.2 Field patterns

Along the coastal plain in the south the landscape is well-managed with neat, low hedgerows to medium and large arable fields and occasional plantations on the coastal plain. On the fringes of the forest there is a tight network of small fields and closes that have developed over the centuries from the medieval period. In the forest these small fields are typically rectilinear.

**Source: New Forest 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

Grazing is the main farm type, despite a small decline in the number of such farms between 2000 and 2009. Farms specialising in horticulture halved in number to 29 during that time and dairy farms fell by a third.

**Source: Agricultural Census, Defra (2010)**

### 6.2 Farm size

A key characteristic of the New Forest is the high proportion of small farms - 85 per cent were less than 20 ha in 2009. The smallest holdings (under 5 ha) and those between 50 and 100 ha fell in number between 2000 and 2009, but this is mirrored by moderate increases in all other sizes, including large (over 100 ha) farms. Additional information (supplied by New Forest National Park) suggests that within the National Park the number of holdings under 5 ha increased from

546 to 595 between 2007 and 2009. This suggests that within the National Park the trend may be reversing.

**Source: Agricultural Census, Defra (2010)**

### 6.3 Farm ownership

The amount of owned land increased by around 1,400 ha between 2000 and 2009 and the amount of farmland altogether rose by just over 2,000 ha.

**Source: Agricultural Census, Defra (2010); New Forest National Park Profile 2011.**

### 6.4 Land use

Between 2000 and 2009 dairy farms reduced in number by a third and those specialising in horticulture halved. During the same period, there were small increases in the number of pig, poultry and cereal farms. Grass and uncropped land remained the largest proportion at 69 per cent.

**Source: Agricultural Census, Defra (2010)**

### 6.5 Livestock numbers

Cattle remain the most numerous livestock at 50 per cent of all stock despite a reduction of 17 per cent between 2000 and 2009. Sheep and pigs show a slightly greater fall in numbers.

**Source: Agricultural Census, Defra (2010)**

### 6.6 Farm labour

The number of full time workers fell significantly between 2000 and 2009 but the number of casual staff increased by far more than that amount. Salaried managers increased by 17 and the number of part-timers remained more or less the same.

**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

The landscape and habitat types of the NCA are diverse and complex, including open heath and grazed wood pastures. Within the open forest, the complex of heathland, mire and pasture woodland do not occur anywhere else on so large a scale and nowhere else do they occur in this combination. Although it may appear to be wild, the area owes its character to the historical common grazing system that creates a landscape of unique identity and survives here in one of the last places in lowland Europe. Along the shore there are important areas of grazed coastal flood plain, marsh, reedbed and mudflats.

**Source: Natural England NCA Science & Research, New Forest 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 locally mapped priority habitats. This will be used to inform future national inventory updates.

| Priority habitat | Area (ha) | Percentage of NCA |
|---|---|---|
| Coastal and flood plain grazing marsh | 2,834 | 4 |
| Coastal salt marsh | 282 | <1 |
| Coastal vegetated shingle | 66 | <1 |
| Eutrophic standing waters | 35 | <1 |
| Intertidal mudflats | 753 | 1 |
| Lowland beech and yew woodland | 50 | <1 |
| Lowland dry acid grassland | 3,110 | 4 |
| Lowland fens | 1,853 | 3 |
| Lowland heathland | 9,823 | 13 |
| Lowland meadows | 457 | 1 |
| Lowland mixed deciduous woodland | 7,948 | 11 |
| Maritime cliff and slopes | 48 | <1 |
| Purple moor grass and rush pastures | 1,060 | 1 |
| Reedbeds | 77 | <1 |
| Saline lagoons | 36 | <1 |
| Wet woodland | 530 | 1 |
| Wood pasture and parkland | 4,450 | 6 |

**Source: Hampshire Biodiversity Information Centre (2013)**

- 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

Within the National Park area of the NCA there are two distinct patterns; about one third of the population live in the four main forest settlements of Ashurst, Brockenhurst, Lyndhurst and Sway, while the remainder is sparsely populated with numerous small villages and isolated dwellings often with their own paddock, linked by a network of narrow lanes. Outside of the National Park there are two more urbanised areas. Along the south-west shore of Southampton Water are a series of larger settlements stretching from Totton to Fawley – known locally as the 'Waterside' – which has built-up as part of the Southampton conurbation based on the dock economy and Fawley oil refinery. To the south-west of the area a second series of settlements, from Lymington to Christchurch, have grown rapidly along the coast. Both these areas are influenced heavily by the adjacent growth areas of Southampton and Bournemouth/Poole.

**Source: New Forest Countryside Character Area description; Countryside Quality Counts (2003)**

### 8.2 Main settlements

The main settlements within the New Forest NCA are; Totton, Lymington, Ringwood and Christchurch. The total estimated population for this NCA (derived from ONS 2001 census data) is: 178,612.

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

### 8.3 Local vernacular and building materials

Traditional buildings include large country houses and estate villages, hunting lodges, terraces of workers cottages, and small thatched cottages with steep pitches. Along the Avon Valley there is a small concentration of late medieval cruck-framed houses. A few traditionally framed and weatherboarded farm

buildings are found on the fringes of the forest, with most of the farm buildings surviving from the 18th century, and more commonly the 19th century, being brick built. Cob walling, often left unrendered, is seen in some small farm buildings and, usually rendered, for some cottages. Rough boarding using poorer quality planks with the rounded surface of the tree trunk and corrugated tin are commonly seen on the buildings of the smallholdings. Occasionally rat-trap brickwork, the laying of bricks on edge to minimise the number of bricks required, can be seen in buildings and boundary walls.

Thatch survives on some small cottages, often with steep pitches and the thatch brought down close to the ground, but is rarely seen on farm buildings. Historically materials such as gorse, heather and turves would have been used to roof buildings. Survivals of these materials as a base coat are probably rare and should be preserved wherever possible. Any examples of solid thatch – the whole roof void filled with thatching material are nationally rare. Most farm buildings have slate or tile roofs, either plain tile or pantile. Corrugated tin is also commonly used on many small buildings. Slates may be laid 'economically', leaving a gap between each slate in the row to reduce the number of slates required.

**Source: New Forest Countryside Character Area description; Countryside Quality Counts (2003)**

## 9. Key historic sites and features

### 9.1 Origin of historic features

Bronze-age barrows scattered across the heathland of the New Forest show that the area was occupied at that time. Along the coast there are important iron-age sites including the trading site at Hengistbury Head, and these also extend along river valleys. Ancient field systems survive in the open forest. The area was used as a hunting ground by Saxon kings and, most famously, William I designated the area as a Royal Forest which, according to Domesday Book resulted in the clearance of many settlements. Historic urban settlements include Christchurch, the site of an Anglo-Saxon burh and priory, Ringwood and Lymington, a planned new town created in the early 13th century and Lyndhurst, developed around the site of a royal hunting lodge. Along the eastern edge of the area and in the south-west there has been considerable urban development that has subsumed many former villages and hamlets. Also the structures of the oil refinery and power station at Fawley are major components in the landscape. Salt-making through the evaporation of sea water was carried out along the coast from the Iron Age until the 18th century. In the later period Lymington was the centre for this industry on the south coast and earthwork remains of the salt pans survive within the coastal marshes nearby. Bucklers Hard on the Beaulieu River was an important shipbuilding site using timber from the adjacent forests.

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

### 9.2 Designated historic assets

This NCA has the following historic designations:

- 8 Registered Parks and Gardens covering 727 ha
- No Registered Battlefields
- 222 Scheduled Monuments
- 1,555 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

- 42 per cent of the NCA, 30,897 ha, is classified as being publically accessible.
- There are 523 km of public rights of way at a density of 0.7 km per km2.
- There are no National Trails within the NCA.

**Sources: Natural England (2010)**

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

| Access designation | Area (ha) | Percentage of NCA |
|---|---|---|
| National Trust (Accessible all year) | 784 | 6 |
| Common Land | 325 | 6 |
| Country Parks | 13 | <1 |
| CROW Access Land (Section 4 and 16) | 17,972 | 24 |
| CROW Section 15 | 27,380 | 37 |
| Village Greens | 11 | <1 |
| Doorstep Greens | 0 | 0 |
| Forestry Commission Walkers Welcome Grants | 197 | <1 |
| Local Nature Reserves (LNR) | 231 | <1 |
| Millennium Greens | 0 | 0 |
| Accessible National Nature Reserves (NNR) | 980 | 1 |
| Agri-environment Scheme Access | 0 | 0 |
| Woods for People | 27,952 | 38 |

**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 is clear that there are large tranquil areas within the central part of the NCA. There are few tranquil areas in the east along Southampton Water or to the south between Christchurch and Lymington.

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

| Tranquillity | Score |
|---|---|
| Highest value within NCA | 149 |
| Lowest value within NCA | -140 |
| Mean value within NCA | 5 |

**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 the central part of the NCA is undisturbed apart from where it is crossed by major roads. Disturbed land surrounds the towns of Ringwood to the west, Christchurch to the south and the series of towns edging Southampton Water to the east. A breakdown of intrusion values for this NCA is detailed in the table overleaf.

| Intrusion category | 1960s (%) | 1990s (%) | 2007 (%) | Percentage change (1960s-2007) |
|---|---|---|---|---|
| Disturbed | 23 | 51 | 58 | 35 |
| Undisturbed | 72 | 45 | 34 | -38 |
| Urban | 3 | 3 | 8 | 5 |

**Sources: CPRE (2007)**

Notable trends from the 1960s to 2007 are an increase of disturbed land. Urban land has more than doubled in area across the NCA since the 1960s

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)
- 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)Detailed River Network, Environment Agency (2008)

**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

- 60 per cent of the woodland cover in the NCA is managed directly by the Forestry Commission, and this covers much of the ancient woodland and wood pasture. The major change in this area has been the large scale clearance of non-native species and gradual rebalancing in favour of broadleaves, reversion to heathland and reinstatement of river courses and wetlands under Forest Design Plans and Life funded projects.

- Outside the Forestry Commission managed areas, uptake of the English Woodland Grant Scheme (EWGS) has increased from an average of 250 ha per year in 1999 to over 500 ha per year in 2003, mostly for annual management grants with small amounts for coppicing and re-stocking. Overall the proportion of eligible sites under the EWGS has increased from 9 per cent to 21 per cent over the same period. In the National Park area the EWGS schemes covered 18 per cent of eligible woodland in 2010, concentrated in the Bransgore and Ashurst areas.

### Boundary features

- Recovery from the gradual decline in the quality and quantity of hedges and hedgerow trees has benefitted from large scale take up of agri-environment scheme funding for management, restoration and replanting between 1993 and 2004. The recovery tailed-off significantly after 2005, following the launch of new schemes and overall the asset has been neglected with only 4 per cent of the total boundary feature length being under Environment Stewardship. More recently the activities of the New Forest Land Advisory Service have resurrected interest and the take up of funding to manage traditional field boundaries.

**Hedgerow oaks, once valued for ship building.**

- The continuing loss of hedgerows and hedgerow trees (notably in the enclosed areas of the National Park where they define medieval field patterns) and their replacement and subdivision of pasture with non-traditional fences has had a significant negative impact on landscape character and local distinctiveness.

- Poorly managed hedgerows in the farmland of the Avon Valley, many of them resulting from overgrown and poorly managed drainage features, and along the Solent coast, contrast unfavourably with the high hedgebanks and boundary trees of the enclosed areas.

### Agriculture

- Grazing by commoners' stock is a critical factor in maintaining the character of the open forest and the Countryside Quality Counts analysis (1999-2003) refers to a decline in grazing intensity, and in cattle and sheep numbers compared with 1990, but an increase in the area of pasture and in the number of holdings classified as lowland sheep or cattle. Long term declines in dairy farming, which relied on the retention of pasture on smallholdings, has also been detrimental to the quality of the enclosed landscapes.

- More recently the number of commoners has been increasing and the level of grazing stock has increased over the last 6 years. Sustaining the overall viability of commoning however remains of concern and a determining factor is the need for more back-up pasture, much of which has been lost to other uses. The area of farmland as a whole has also increased over the last 4 years, with 76 per cent of holdings and 64 per cent of agricultural land in the National Park classified as livestock grazing.

- Stewardship schemes, mainly to regenerate and enhance heathland and pasture, have had a high level of uptake since 2001, with rates well above the national average. Recently 20,000 ha of public land in the New Forest have been included in the largest Stewardship scheme in England, aimed at conservation grazing. Take up on private land is at lower levels.

- Most data refers to the National Park area of the NCA and the position in the Avon Valley and other parts of the NCA outside the Park, where most of the more traditional and arable farming takes place, is unclear.

### Settlement and development

- Within the New Forest National Park part of the NCA, the level of new development has been relatively tightly controlled through protective designations such as Green Belt and latterly through National Park status since 2005. There has, nevertheless, been a gradual erosion of local distinctiveness through the cumulative effect of small scale changes such as; increased urbanisation of settlements; the scale and design of new build; an increase in signage and intrusive lighting; and non-traditional boundary and surface treatments.

- The impacts of increased levels of road traffic, within and through the Park, the rise in popularity of car-born outdoor recreation, new recreation facilities and activities, and increases in overall visitor numbers have also had impacts on distinctiveness.

- These matters are being addressed by the National Park Authority through the designation of 20 Conservation Areas, the adoption of planning policies customised for the National Park, the preparation of a management plan, publication of a design guide and consultation on a draft Landscape Action Plan which includes a focus on design. Consultation and workshop events with parishes and other local groups have been designed to raise awareness of the elements of local distinctive and promote the draft plan.

- In the remainder of the NCA, outside the National Park, large scale development has continued, and more is planned, as a part of economic

growth policies for the south east Dorset and Southampton conurbations. This has resulted in large areas of new housing and associated commercial development along the New Milton coast, in the Waterside, and around Ringwood and Fordingbridge. Related expansion of airport activity at Bournemouth, outside the NCA, has also had an impact on character.

### Semi-natural habitat

- The NCA as a whole, and particularly the New Forest SSSI which is the second largest in England, is one of the most important areas of semi-natural habitat in lowland Europe. SSSI make up about 35,000 ha overall and there are also many additional areas designated as of local interest. In 2012, 96 per cent of the SSSI, by area, were in 'Favourable' or 'Unfavourable Recovering' condition which is a very high and also demonstrates a gradual increase over recent years. A recent Higher Level Stewardship Scheme (HLS) agreement with the verderers, covering 20,000 ha of the New Forest and worth around £16m over 10 years, is helping to address some of the key land management issues necessary to maintain key habitats.

- A principal factor in poor condition is the water levels in the semi-natural habitats of wet heaths and riverine woodland. This is being addressed through a major programme of wetland management, in many cases restoring natural water courses, funded, in part, through the verderers' High Level Stewardship agreement.

- The establishment of the National Park Authority and the adoption of a Core Strategy, Management Plan, Recreation Strategy, Biodiversity Action Plan and draft Landscape Action Plan over the last 5 years have established, for the first time, the statutory basis for integrated management to sustain and improve the quality of these semi-natural environments. In addition the Forestry Commission's Forest Design Plan sets out objectives for the improvement of habitats in the Crown woodland areas, and the activities of the New Forest Land Advisory Service are having excellent results with private landowners.

- The poor quality of freshwater and water meadow habitats in the Avon and Blackwater catchments are being addressed through Catchment Sensitive Farming and Water Framework Directive projects designed to achieve improvements.

### Historic features

- In the National Park and the Avon Valley many historic features, including landscapes, ancient monuments, listed buildings or parkland, have been retained. This includes the extensive commons and wood pasture which are an integral part of the ancient pastoral farming system. The absence of intensive agriculture over large parts of the NCA and the retention of pastoral farming has largely been responsible for this.

- Elsewhere detailed information is poor, but generally the spread of suburban residential and commercial development, particularly along the New Milton/Christchurch coast and the Waterside, has resulted in significant loss or damage to historic features and identity.

- The National Park Authority sources indicate that 30 per cent of Scheduled Ancient Monuments in the National Park are at risk, mostly from bracken and/or gorse encroachment. This is being partially addressed through Stewardship management targeting monuments at risk and they are gradually being bought into favourable or improving condition.

- Of the listed buildings in the National Park, 2 per cent are at risk, compared with 3 per cent nationally, and these, along with other historic buildings and features, are now benefitting from the designation of 20 new or re-designated Conservation Areas, and the adoption of the Core Strategy and the Management Plan by the National Park Authority.

- The coverage of historic parks and gardens, and their condition has declined substantially but there is currently no formal assessment of their condition.

### Coast and rivers

- The Solent and Southampton Water coast represent a significant element of this landscape and the undeveloped areas of this coast are almost entirely covered by SSSI, SAC, SPA and Ramsar designations. These have featured significantly in many Stewardship scheme agreements and other targeted management initiatives over recent years.

- As a result 94 per cent of coastal SSSI area is in Favourable or Unfavourable Recovering condition. Coastal erosion and sea level rise is however having a significant impact and large areas are being lost through inundation and rising salinity.

- The North Solent Shoreline Management Plan provides the long term context for coastal alignment. The policy is 'hold the line' along most of this shoreline, but with 'no active intervention' from Lymington to Sowley, and Beaulieu River to Calshot. Both these sections include SAC coastal features, habitats and species.

- Many rivers are also covered by multiple conservation designations, but of the 3 specific riverine SSSI 47 per cent are in favourable or unfavourable recovering condition, reflecting the levels of pollutants and sediment affecting water quality. Several streams unconnected to wider catchments are of very high quality because of the absence of pollution influences.

- Catchment Sensitive Farming initiatives are addressing river quality in the Hampshire Avon and Blackwater, and a project to control non native invasive species in the New Forest streams and rivers has been active since 2009.

### Minerals

- The New Forest plateau, the coastal belt and the Avon Valley contain valuable aggregate resources. Many sites have been worked historically and several are still operating.

- The latest draft of the Hampshire Minerals and Waste Local Plan acknowledges the importance of these resources, particularly in an area of generally limited aggregate resources and high levels of building activity. It promotes two new sites in the area – one in the Avon Valley and one in the Waterside.

- The National Park however benefits from a policy in the Minerals and Waste Core Strategy that mineral sites should not be worked in the New Forest unless a very specific and restricted numbers of factors are relevant. One of the above sites however is on the Park boundary.

## Drivers of change

### Climate change

Predicted changes in climate and their potential impacts are likely to be the biggest single factor influencing the landscape of the NCA in the medium to long term. Based on current predictions, the main areas affected, and therefore the focus of adaptation and mitigation to climate change will be:

- A rise in relative sea levels, resulting in more frequent and extensive inundation and erosion of coastal areas, with impacts on designated habitats and species, coastal squeeze and re-alignment generally, grazing and other coastal farmland, recreational use and access, coastal settlements and infrastructure. In particular the coastal habitats between Keyhaven and Calshot, currently protected by spits and other deposition features, are vulnerable to erosion should this protection decline as result of sea level rise and increasing storm events. Some of these effects are already taking place.

- Changing patterns of seasonal precipitation and increasing storm events will affect water flow, both in the smaller New Forest streams and rivers, which are sensitive to rainfall, and in the Avon and other large rivers. The most likely effects are increased flooding generally affecting adjacent habitats, settlements and farmland, and increased flash flooding, and therefore erosion, of streams and ditches.

- The same precipitation changes, allied with average temperature rise and longer drought periods, have the potential to affect the 2 primary habitats of the New Forest – woodland and heath – by encouraging invasive species and pests, discouraging the conditions required for designated species, reducing richness and diversity, and drying out mires, bogs and wet woodland (with consequent $CO_2$ release and poorer water filtration). Conversely conditions for the growth of certain woodland species may be improved.

- Impacts on land management generally, including pastoral farming, with changing food demands nationally, the introduction of new crops, and diseases, irrigation demands and responses to flooding and soil erosion.

- Less direct and tangible impacts on recreational use and access ranging from the potential for more visitors with higher average sunshine and outdoor temperatures, to increased footpath erosion in wet conditions.

### Other key drivers

- The changing social and economic conditions that provide the basis for pastoral farming may result in a decline in commoning that would threaten the basic qualities and characteristics of the New Forest landscape. These changes are driven by food and farming economics, the availability of low cost housing, the value and use of back up land for non-agricultural uses, the loss of a local artisan workforce, and the impact of recreational activity.

- These changes are also affecting the historic and cultural characteristics of the New Forest. For example by the replacement of vernacular houses and other commoners buildings with modern, unsympathetic structures, and the potential loss of other cultural links with commoning such as freely wandering stock in woodland on open heaths.

- The cumulative effect of increasing visual gentrification and suburbanisation of the New Forest villages and roads is also impacting on its historic and cultural identity. This is driven by the popularity and desire for rural living, and car based commuting. An increase in traffic on rural roads and trunk roads generates intrusive noise and visual disturbance affecting the sense of place and tranquillity. At night, traffic and lighting pollution is diminishing the night sky environment.

- Recreational use and access, both day visits and longer term tourism, are both increasing and changing in nature with emphasis on activity-based recreation, such as off- road cycling and kite surfing.

- The impact of plan-led economic growth in the urban areas that flank the NCA manifests itself in various ways. For example through additional housing and industrial commercial development, increased demand for recreation from populations in close proximity to the New Forest, expanded port and related facilities, increased air traffic and increased demand for water services.

# 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.


**The attractions of the natural environment for recreation such as here at Beaulieu Road.**

| Statement of Environmental Opportunity | Ecosystem service: Food provision | Timber provision | Water availability | Genetic diversity | Biomass provision | Climate regulation | Regulating water quality | Regulating water flow | Regulating soil quality | Regulating soil erosion | Pollination | Pest regulation | Regulating coastal erosion | Sense of place / Inspiration | Sense of history | Tranquillity | Recreation | Biodiversity | Geodiversity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SEO 1:** Ensure that the internationally designated landscapes, habitats and species of the ancient woodland, wood pasture, inclosures, heaths and mires, forming the open access core of the National Park are maintained and enhanced, enabling them to support and benefit from the continuation of traditional commoners' grazing. This will help to retain the cultural and historic features of this landscape, and maintain multiple ecosystem service benefits, particularly biodiversity, water regulation, carbon sequestration, sense of place and tranquillity, and recreation. | ↗ *** | ↗ *** | ↔ *** | ○ *** | ↓ *** | ↗ *** | ↑ *** | ↔ *** | ↔ *** | ↗ *** | ○ *** | ○ *** | ↔ *** | ↑ *** | ↑ *** | ↔ *** | ↗ *** | ↑ *** | ↔ *** |
| **SEO 2:** Conserve and improve local distinctiveness in the traditional commoners' smallholdings, enclosed pastures, farmsteads, hamlets and settlements on the Forest fringe. These have strong functional and habitat links with the heaths, woodlands and wood pastures, and reflect the historic social, cultural and pastoral economic traditions of the landscape. Retention of these links is essential to maintain habitats, support continued commoning and retain a key element of the visitor experience. | ↑ *** | ↔ *** | ↔ *** | ○ *** | ↗ *** | ↔ *** | ↔ *** | ↔ *** | ↔ *** | ↔ *** | ○ *** | ○ *** | ↔ *** | ↑ *** | ↑ *** | ↗ *** | ↗ *** | ↗ *** | ↔ *** |
| **SEO 3:** Promote the extent of open access, the high-quality semi-natural environment and the strong sense of human history as a special landscape for recreation and tourism, and for the enhancement of health and wellbeing. Use opportunities to raise visitor awareness of these qualities, their sensitivities and management requirements, and the economic and social benefits of the visitor economy. | ↔ *** | ↔ *** | ↔ *** | ○ *** | ↔ *** | ↔ *** | ↔ *** | ↔ *** | ↔ *** | ↔ *** | ○ *** | ○ *** | ↔ *** | ↑ *** | ↑ *** | ↓ *** | ↑ *** | ↘ *** | ↔ *** |
| **SEO 4:** Ensure that the features of the Solent and Southampton Water coast, particularly the internationally designated mudflats, saline lagoons, salt meadows and geo-archaeological features, are retained, while enabling the operation of natural coastal processes and anticipating the effects of climate change. This will benefit flood risk alleviation and recreational use, control coastal erosion and provide opportunities for habitat creation. | ↗ *** | ↔ *** | ↔ *** | ○ *** | ↔ *** | ↑ *** | ↔ *** | ↔ *** | ↔ *** | ↔ *** | ○ *** | ○ *** | ↑ *** | ↑ *** | ↑ *** | ↑ *** | ↑ *** | ↑ *** | ↗ *** |
| **SEO 5:** Support and develop the 'catchment project' across the internationally recognised aquatic environments of the New Forest, Hampshire Avon and Blackwater drainage systems. The aim will be to achieve co-ordinated and multiple benefits for habitats and species, recreational use, water and carbon retention and water quality, climate change resilience, flood regulation and flood alleviation while reducing soil erosion and agricultural run-off. | ↔ *** | ↔ *** | ↔ *** | ○ *** | ↔ *** | ↑ *** | ↑ *** | ↑ *** | ↑ *** | ↑ *** | ○ *** | ○ *** | ↔ *** | ↔ *** | ↔ *** | ↗ *** | ↔ *** | ↑ *** | ↔ *** |

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

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

## Landscape attributes

| Landscape attribute | Justification for selection |
|---|---|
| The core of the New Forest; an entirely uncultivated mixture of extensive, open rolling heaths and valley mires, inclosures of broadleaf and coniferous plantation woodland, and large tracts of unenclosed ancient semi-natural mature oak woodland pasture. | ■ The essential landscape of the New Forest, shaped by its geology and acid soils, created by its royal hunting forest/commoning history and now recognised as a National Park.<br>■ Clear brown water streams meander through the woodland in etched river courses, and there is widespread, rich evidence of early settlement in the form of, for example, barrows and earthworks.<br>■ This landscape defines the sense of place, inspiration and history of the NCA.<br>■ The largest remaining area of uncultivated semi-natural habitat in lowland Europe where ancient pastoral management remains, all designated SPA, SAC and SSSI with a plethora of Biodiversity 2020 habitats.<br>■ Levels of tranquillity and dark sky criteria are high in large parts of the area, and this is feature of the area as a whole, particularly the tranquillity of the ancient and ornamental woodlands.<br>■ The area is the subject of multiple HLS agreements, including a single agreement covering 20,000 ha on the Crown Lands within the open forest.<br>■ The future of the commoning tradition, the impacts of increasing recreational use, the pressures of economic growth and the effects of climate change are major forces for, largely negative change.<br>■ For most visitors to the National Park, this landscape provides the outlet for walking, cycling and horse riding, and is almost entirely open access land. |
| Enclosed 'back-up' farmland and dispersed farmsteads, villages and hamlets around the fringes of the open forest. | ■ This has a more intimate character of small pastures, horse paddocks and some assarted fields, enclosed by high hedges with many mature hedgerow trees, giving the impression of being part of the New Forest, and a network of narrow winding, enclosed and unenclosed, lanes.<br>■ The pastoral, settled and farmed working landscape that provides for and supports the commoning tradition essential for the maintenance of the open forest.<br>■ It generally sits outside the core SAC/SPA/SSSI but contains all the Conservation Areas and a large proportion of the listed buildings that make up the traditional forest farmsteads, cottages and villages. |

| Landscape attribute | Justification for selection |
|---|---|
| Commoners' stock (donkeys, ponies, sheep, cattle and pigs) which graze and is responsible for the persistence of this ancient landscape, is a common visual feature, particularly along roadsides and on the close-cropped verges, lawns and commons which run through the New Forest settlements. | ■ A third element of the New Forest image is the common sight of livestock everywhere in the open forest, including along roads through the non-cattle gridded towns and villages. Ponies and donkeys are the most common but pigs and cattle are also often seen at certain times of the year.<br>■ For visitors, particularly young children, this is a very special experience. It provides a connection with historic pastoral farming and a reminder of the presence of commoning and its importance in the management of the forest.<br>■ The New Forest pony is a rare breed and bloodstock is threatened by breeding with other lines.<br>■ Wild deer are also regularly seen, but not in such close proximity as commoners' stock and only in the open in certain seasons, mainly autumn.<br>■ Animal road deaths have been a problem as levels of traffic have increased, and a 40 mph speed limit has been introduced on all unfenced roads to try to reduce this.<br>■ Any change in the extent and/or nature of commoning would have a major impact on the special qualities of the New Forest. |
| An undeveloped open, marshy coastal strip with shingle beaches and spits, backed by low crumbling cliffs, with prominent oaks and maritime pines, and views across the Solent to the Isle of Wight and along the shore to Bournemouth and the distant Purbeck coast. | ■ In parts, an isolated, tranquil and wild landscape that provides a contrasting atmosphere and sense of place to the traditional New Forest, with access to the beach, sea views and water sport opportunities.<br>■ Distinctive coastal process features such as the cliffs, spits, salt marsh, lagoons and mudflats.<br>■ Evidence of salterns remains in the form of sea walls, lagoons and disused docks and structures.<br>■ Most of the coast is covered by overlapping SAC, SPA and SSSI and contains several Biodiversity 2020 coastal/marine habitats. The western section from Highcliffe to Hordle is a geological SSSI exposing the underlying geology of the NCA, an internationally recognised formation/series.<br>■ The Hurst Spit to Calshot section is part of the National Park<br>■ Coastal squeeze, sea level rise and other climate change events, and the need to allow habitats to migrate inland are a major force for change.<br>■ The Waterside/Southampton Water coast is extensively urbanised and industrialised inland of the marshes and mudflats, and is outside the National Park. Development pressures represent a force for change along this section. |

| Landscape attribute | Justification for selection |
|---|---|
| The broad lush floodplain of the lower Hampshire Avon Valley, with grazing cattle on the water meadows, the meandering wide main river crossed by elegant stone bridges, and a maze of carriers, ditches and braided streams. Gravel extraction from the valley floor has left several large open water bodies. | ■ Provides a contrasting landscape to the traditional New Forest and a link, via its catchment, source and water quality, with the Chalk geology to the north of the NCA.<br>■ Shaped by a water meadow farming history and with widespread evidence of its influence on the landscape.<br>■ Long linear SAC, SPA and SSSI designations follow the river course and the wet meadows of the valley bottom.<br>■ A major public water supply source and recipient of sewage discharge for Bournemouth, Poole and Christchurch, and an area of flood risk, all representing a force for change.<br>■ Similarly the changing farming patterns and effect of river management, drainage and farming practices on the water meadows.<br>■ The valley bottom contains the most valuable aggregate resource in Hampshire, and has already been heavily affected by extraction, resulting in large water bodies north of Ringwood now highly valued for their biodiversity, particularly bird populations. The prospect of further extraction is a potential force for change. |
| The quiet wooded tidal estuary and creeks of the Beaulieu River with the conserved buildings, artefacts and landscape features of the timber shipbuilding industry. | ■ A small contained landscape within the New Forest, in which the quiet winding narrow estuary, flanked along its length by woodlands, and the marshes of Needs Ore point, create an isolation and intimacy that separates it from its surroundings.<br>■ SAC, SPA and SSSI cover the estuary, its creeks and the coastal areas, and the area is designated as a National Nature Reserve (North Solent).<br>■ Beaulieu Abbey, with its famous motor museum, the Conservation Area and listed buildings of Beaulieu village, and the Bucklers Hard living shipbuilding museum provide an unprecedented collection of historic sites. This is a major visitor attraction and probably the best known site in the National Park.<br>■ Exbury, a Historic Park and Garden on the eastern bank, is a major visitor attraction. |
| Isolated farmhouses, cottages and hamlets with buildings of brick, local stone and timber frames. Outbuildings, built of cob (often unrendered), rough black boarding or corrugated tin complement these clusters. | ■ The brick and slate, or weather-boarded agricultural buildings and houses, either in isolation or in small linear settlements, many of them originally the homes of commoners or foresters, are part of the New Forest and a link with its provenance.<br>■ They form part of the classic image of the New Forest, set against a backdrop of ancient woodland, overlooking grazed lawns with ponies or viewed from a distance across open heath.<br>■ Uncertainty over the future of commoning and the popularity of New Forest villages for people choosing to live in the Forest for lifestyle reasons provides a force for change. |

| Landscape attribute | Justification for selection |
|---|---|
| Distant skyline views of the chimneys, cranes and structures of the oil refinery, power station, incinerator and docks of Southampton Water. | ■ In the eastern part of the National Park, particularly from the elevated open heaths, the skyline is dominated by these structures. It is a reminder that the Southampton conurbation, with its economically important port and associated industrial activity, is on the doorstep of the National Park.<br>■ Growing population and economic growth, the increasing popularity of outdoor recreation, particularly for health benefits, the proximity of the National Park and the difficulty of providing new greenspace facilities in urban areas, provides a force for change. |
| The urban/suburban area of Christchurch, Highcliffe, Barton on Sea , Milford on Sea and New Milton with large areas of post-war suburban housing and holiday developments along the beaches and cliff tops, and inland of Christchurch Bay. | ■ One of two urban landscapes in the NCA. This built-up area of, mostly, suburban housing, extends east from Christchurch along the flat coastal plain. Several formerly isolated settlements have merged in to a large residential mass.<br>■ This area is outside the National Park, but the proximity of the park and the Christchurch Bay coastline provide a major attraction for developers and residents.<br>■ To the north of the area ribbon development has spread along both sides of many of the smaller roads in to the southern edge of the National Park, much of it associated with horse keeping.<br>■ This area of development is not a prominent visual feature within the NCA unless seen from the sea or the beach.<br>■ For many years, the rate of housing growth in this area was the highest in this region of England and further development is a major force for change. |

| Landscape attribute | Justification for selection |
|---|---|
| The 'Waterside' is an urbanised and industrialised strip, east of the A326 trunk road, including Marchwood, Hythe and Dibden. It also includes Fawley oil refinery and power station, a collection of prominent former military buildings on Calshot Spit, and the Southampton Water and Test Estuary shoreline of salt marsh and mudflats. | ■ Development, largely housing, has also spread south from Totton along the western side of Southampton Water south to Blackfield and Fawley village. Functionally this is part of the Southampton conurbation. Much of it is associated with employment generated by the oil refinery, power station and port related activity.<br>■ There are views across the busy shipping lanes of Southampton Water to the City, its docks and the Royal Victoria Country Park and Netley Cliff shoreline.<br>■ It is outside the National Park and, other than the industrial chimneys and stacks, does not form a prominent visual feature viewed from a distance. Large scale structural planting alongside the A326 provides a good visual screen to the housing areas and the refinery.<br>■ There are several large undeveloped areas which connect the National Park with the Southampton Water and these have been identified as 'strategic gaps', by the District Council in its Core Strategy, with a presumption against further development.<br>■ Day visit numbers to the New Forest from this area and the Christchurch/Ringwood areas, mostly car based, are high and good public transport linkages are scarce. |
| An arable belt, along and inland of the coast, of large well managed enclosure fields with neat low hedges. A further similar strip of arable land with smaller fields extends between the western escarpment of the New Forest and the Avon water meadows. | ■ This feature is not one for which the New Forest is renowned. Arable farmland however covers a large area on more fertile, well drained soils, in the National Park between Keyhaven and Calshot and between Sopley and Fordingbridge. Outside the Park it occurs west of Milford on Sea.<br>■ Farming practices and economics are likely to be influenced by the demands for arable crops, the fodder demand of commoners, CAP reform, changes to agri-environment agreements and climate change. |

## Landscape opportunities

- Conserve and protect the natural, historic and cultural landscape attributes, particularly their tranquillity and biodiversity, and the local distinctiveness of the open forest, 'back-up' land and its settlements, the undeveloped coast and the Avon Valley, while retaining and improving its accessibility and value for outdoor recreation.

- Manage disturbed, degraded and damaged landscape attributes, for example coastal features, river courses, mires, wetlands and poorly managed woodland, to restore and enhance biodiversity, enable compatible recreational and agricultural or forestry use, and seek to increase the value of key associated ecosystem service contributions, for example climate change adaptability and regulation, biomass and timber.

- Support and manage the system of commoning and the landscapes and socio-economic facilities required to support it, and promote its value as an ecosystem service (food provision), its role in sustaining the open forest and its potential as a visitor attraction.

- Manage the coast to allow natural processes to take place, where appropriate within Shoreline Management Plan policies, to enhance flood regulation capabilities and enable replacement habitat creation where it can compensate for the effect of coastal squeeze.

- Manage the Lower Avon river system to restore connection with the floodplain, enhance and restore river and wetland habitats, enable climate change/flooding resilience and sustain public water supply consistently with catchment, river basin and abstraction plans.

- Utilise the visibility of the Southampton industrial skyline to raise awareness of the proximity of large urban areas and the impact of recreational activity on the landscape, enhance access routes from urban areas for walkers, cyclists and horse riders to reduce car based trips, and enhance the provision of greenspace and other access land outside sensitive habitats to provide close proximity opportunities for recreation.

- Utilise the popularity of the experience of roadside ponies and cattle through educational literature and information, to raise awareness of commoning as an essential activity for the future of the New Forest, and the threat to stock from traffic, disturbance and loss of back-up pasture.

- Capitalise on changing farming economics and practices where it produces opportunities in areas of arable farming to extend the woodland or heathland habitats, enables habitat creation to compensate for areas lost as a result of coastal squeeze, provide recreational outlets in non-sensitive areas and improve the management of private woodlands.

## 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 service offered by opportunities |
|---|---|---|---|---|---|---|
| **Food provision** | Livestock farming<br><br>Arable farming | The NCA has over 50,000 ha of Grade 4 and 5 agricultural land. Of this c.11,700 ha are within the open forest and include land which is almost entirely uncultivated. Commoners' livestock grazing this area, and using back up pasture on forest smallholdings, makes the most significant contribution to food provision in this NCA. This is through the production of high quality meat and dairy products, most of it marketed locally.<br><br>The floor of the Avon Valley, traditionally water meadows, is also Grade 4 and supports livestock farming. Some of this is back-up pasture for the New forest commoners.<br><br>The area is characterised by a large proportion (80 per cent in the National Park) of holdings less than 20 ha.<br><br>Along the coastal plain and the western edge of the National Park is an area of higher Grade 2 and 3 land used for arable farming, horticulture and pasture. | Regional | Income from this source is key to the economic viability of commoning, the continuation of which is essential for the management of key landscapes and habitats and important to the sense of place for visitors and residents.<br><br>Alongside farm income, the viability of commoning is also dependent on various socio-economic issues, such as affordable housing and the availability of artisan labour. Although levels of built development are tightly controlled, the loss of back-up pasture to other uses is having an impact on the viability of traditional commoning.<br><br>Several initiatives are already underway with the National Park Authority, Environment Agency, verderers and other partners to influence and maintain the commoning traditions with subsequent multiple benefits for food provision and conservation.<br><br>**Continued over...** | With many current support initiatives subject to review, it will be important to secure a firm long term economic basis for commoning.<br><br>There is growing income opportunity and potential from the expanding markets for high quality local produce, which itself has a strong link with the recreation and tourism offer. Wider use could be made of the New Forest Marque branding.<br><br>The promotion of local produce in the region, as a whole could also be used to raise awareness of the importance of commoning to the landscape attractions of the New Forest.<br><br>**Continued over...** | **Food provision**<br><br>**Sense of place / inspiration**<br><br>**Sense of history**<br><br>**Biodiversity**<br><br>**Recreation** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Food provision continued** | | | | **...continued from previous.**<br><br>Income from Stewardship and other grant aid is currently a key factor in supporting this activity.<br><br>On the water meadows of the Avon Valley there are similar issues between sheep and cattle grazing, the traditional water-meadow management regimes of the SAC and SPA, flood management, angling interests and the increasing trend towards arable production.<br><br>Food provision from the higher grade land was historically characterised by horticulture and orchard fruits, associated with the South Hampshire's 'highlight zone' and the demand from Southampton docks and London. This has declined substantially following national trends, replaced largely by arable, with implications for dispersed pollution, soil erosion and water flow regulation. | **...continued from previous.**<br><br>To further assist commoning practices and sympathetic land management, there is potential for the expansion of initiatives, such as the New Forest Land Advisory Service that provide advice and support to farmers/ and landowners on grant aid and good practice. Linked with this is support for the provision of commoners housing and other facilities to be treated as exceptions to policy.<br><br>Some of these fringe arable areas are in the National Park but lack strong visual or functional links with the distinctive landscapes. There is therefore opportunity to influence management to both support commoning, through for example providing fodder, and extend the New Forest landscapes, for example through improved boundary management. This would benefit water regulation and reduce soil erosion.<br><br>A further opportunity is to negotiate use of coastal farmland as a potential area for habitat replacement resulting from loss elsewhere from coastal squeeze. | |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Timber provision** | Large inclosures of mixed and coniferous woodland on crown estates<br><br>Un-enclosed, mostly broad leaved woodland and wood pasture<br><br>Private woodland on the New Forest fringe and outside the National Park | Woodland in the New Forest NCA is a very significant national resource covering 23,825 ha, 31 per cent of the area. 9,760 ha, (41 per cent) is ancient woodland. Most of this is managed by the Forestry Commission on the Crown Estate. There are also large areas of private woodland, much of it outside the National Park. | National | Historically much of the native woodland was enhanced through planting, and managed and conserved to provide royal hunting grounds and timber, particularly for fuel and shipbuilding. With the expansion of commoning the woodland also took on a major role as grazing for commoners' stock. In the 20th century, large softwood plantations were added.<br><br>Commercial hardwood and softwood timber production, remains a key industry and employer, but the more important value of the woodland is now reflected in their designation as SAC, SPA or SSSI (in many cases woodland has all three) and the designation of the National Park to reflect its recreational, as well as biodiversity, value.<br><br>The Crown Land woodlands, are the subject of a Forest Design Plan that reflects its multiple conservation, recreation and commercial benefits, and under this, these woodlands produce approximately 50 km$^3$ a year and create about 700 jobs in the National Park. This has socio-economic value for the New Forest communities and helps to supports the essential commoning activity.<br><br>**Continued over...** | Expand advice and support work with private woodland owners to improve management for commercial timber and biodiversity, and raise awareness of potential markets.<br><br>Support measures to promote markets for high quality timber and biomass products.<br><br>Use education and interpretation opportunities to increase awareness of the need for woodland management. | **Timber provision**<br><br>**Biomass energy**<br><br>**Biodiversity**<br><br>**Climate regulation**<br><br>**Regulating water quality**<br><br>**Regulating water flow**<br><br>**Sense of place / inspiration**<br><br>**Tranquillity**<br><br>**Recreation** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
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| **Timber provision continued** | | | | **...continued from previous.**<br><br>The majority of commercial timber is softwood (the by-products of which are used as biomass - see below) and over recent years this has included large landscape scale clearance of non-native conifers under habitat creation schemes funded by the European Union 'LIFE' project. Under the Design Plan the Forestry Commission will gradually increase the proportion of hardwoods in inclosures and the open forest.<br><br>Production of hardwood, mostly oak and beech, is of a lesser scale but with the expanding markets and interest in timber framed buildings, quality furniture and craft products, timber from the New Forest is a valuable product.<br><br>Outside the FC, managed area large areas of mixed woodland are privately owned and not under any form of recognised formal management. | | |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Water availability** | Surface water in rivers, streams and ponds<br><br>Limited groundwater on wet heaths and woodlands | The area is covered by 3 Catchment Management Plans:<br>■ The 'New Forest' covers 4 streams, draining to the Solent that provides local surface water, and a groundwater source covering the central and northern part of the plateau.[7]<br><br>■ The Hampshire Avon catchment covers the entire river and tributaries, but in this NCA this relates only to surface water extraction in the lower river, south of Fordingbridge, providing a major public water supply source.[8]<br><br>■ The River Blackwater, which is a tributary of the Test and part of the Test and Itchen catchment. [9]<br><br>These 3 areas are split between the South East and South West River Basin Management Plans. Ecological status of most water bodies is good to moderate, except the lower Avon and lower Blackwater which are poor.<br><br>The area is surrounded by very important chalk aquifers, but the geology of the NCA only supports aquifers of mostly 'Secondary A' status, a very small groundwater source protection zone and 'Minor High to Minor Low' water vulnerability zones. | Regional | The New Forest streams are relatively small, heavily influenced by rainfall, generally have low flows in summer, and support a wide variety of internationally designated water-dependent habitats. Similarly the groundwater source, based on the Barton Sands of the central higher part of the plateau, is a minor aquifer, heavily influenced by rainfall and supporting protected water-dependent habitats. 50 abstraction licences produce 2.3 million cubic metres per year, mostly for agricultural use.<br><br>Many of these watercourses have been altered and engineered for forestry and agricultural drainage.<br><br>Water availability licensing is often made dependent on flow levels, ensuring that the effect on designated habitats can be controlled and damage prevented.<br><br>The lower Avon provides a very significant and important public water supply for Wessex Water and Bournemouth and west Hampshire water companies. A single extraction point takes about 15 per cent of the natural flow and public water supply (consumptive).<br><br>**Continued over...** | The rivers and small streams are an integral part of the landscape and they are important resources for agricultural extraction. They also support many designated habitats and species, and are an attraction for visitors.<br><br>This provides a major opportunity to work with the Environment Agency, National Park Authority, water companies and others to achieve multiple benefits. Good practice has already been established through successful projects to restore natural water courses which could be extended.<br><br>Stream restoration projects provide a good opportunity for education, explaining the driving forces for the works and the benefits for landscape, habitat, water resources and recreation.<br><br>Extended application of initiatives to control dispersed pollution, sediment run off, damaging discharge and extraction, would also benefit water availability and other water ecosystem services. | **Water availability**<br><br>**Biodiversity**<br><br>**Regulating water quality**<br><br>**Regulating water flow**<br><br>**Climate regulation**<br><br>**Regulating soil erosion**<br><br>**Recreation** |

[7] New Forest Catchment Flood Management Plan, December 2009 - http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/geso1008bowa-e-e.pdf

[8] Hampshire Avon Catchment Flood Management Plan, June 2012 - http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b-98ff72d550b.r19.cf3.rackcdn.com/geso1008bowa-e-e.pdf

[9] Test and Itchen Catchment Flood Management Plan, December 2009 - http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b-98ff72d550b.r19.cf3.rackcdn.com/geso1008bowc-e-e.pdf

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Water availability continued** | | | | **...continued from previous.**<br><br>The lower Avon also provides an outlet for treated sewage and other discharges, the main one being from Ringwood Sewage works. Overall its ecological status is poor through a combination of extraction and land drainage pollution.<br><br>Proposed growth in the south-east Dorset /Bournemouth conurbation will put additional requirements on the Avon for both water supply and sewage discharge.<br><br>Unlike most parts of the Test and Itchen catchment, the River Blackwater is not a chalk stream and has characteristics similar to those of the New Forest streams, supporting important habitats. There is no public water supply, but large extractions for agricultural and recreational use, and significant land drainage pollution. To protect flows in the lower Test and to assist recovery from its ecologically poor status, the Blackwater is classed as 'No Water Available' for the purposes of further licensing. | | |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Biomass energy** | Crown estate inclosures<br><br>Mixed woodlands<br><br>Private mixed woodland | Large areas of existing woodland currently provide some biomass fuel, largely as a by product of commercial forestry and woodland management.<br><br>There is medium potential yield for short rotation coppice (SRC) over most of the area apart from some areas along the coast between Christchurch and Lymington, south of Beaulieu and around Ringwood. In these areas the potential yield is low.<br><br>Most of the NCA has a high potential yield for miscanthus, apart from the area surrounding Ringwood and further north along the western edge, where potential yield is medium.<br><br>There is currently no evidence of any significant SRC or miscanthus biomass cropping production. | Local | By products of large-scale timber production, mostly softwood from Crown forests, are used to supply local and regional biomass plant and pellet production. Domestic firewood to supply the increasing popularity of wood burners is also a growing market and a potential source of additional commoners' income.<br><br>Many private woodlands are not in any formal management regime and their biomass potential is largely untapped.<br><br>Extent and scale of any biomass production from woodland needs to be balanced against its landscape, biodiversity and recreational value, and is considered to be potentially adverse in many areas.<br><br>Potential for SRC is identified on arable land on the coastal plain, along river valleys where it would be consistent with existing willow vegetation, and as a screen around urban or industrial areas. This however, could be potentially adverse if it is detrimental to key habitats and/or species, affects valued open views or introduces an alien element into the New Forest landscape. | Develop long-term management plans for, mostly private, woods to enhance biodiversity and recreational value, restore ancient or indigenous woodland. Biomass production might be enhanced as a by product. The identification of new markets for wood products, including fuel, would complement this.<br><br>Promote SRC in areas where high or medium potential is identified, provided that this is consistent with designated habitat and species management and the objectives of the New Forest Management Plan, Landscape and Recreation strategies.<br><br>In arable areas biomass crops may improve the landscape, reduce soil erosion and improve water quality and regulation. | **Biomass energy**<br><br>**Timber provision**<br><br>**Biodiversity**<br><br>**Recreation**<br><br>**Climate regulation**<br><br>**Regulating soil erosion**<br><br>**Regulating water quality**<br><br>**Regulating water flow** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Climate regulation** | Soils<br><br>Peat<br><br>Permanent vegetation cover | The northern and central parts of the plateau are covered with naturally wet sandy/loamy acid soils with high organic content and areas of peat on ridges and plateaus. This provides a rich store of carbon.<br><br>The Avon Valley has similar loamy soils, with peat layers and naturally high groundwater.<br><br>Towards the south the soils become more loamy but retain naturally high groundwater and good carbon storage where not cultivated.<br><br>Further south towards the coast free draining loamy slightly acid soils have lower organic content and carbon storage capability.<br><br>Large areas of the NCA, mostly in the National Park, are uncultivated and have permanent semi-natural vegetation cover. This consists of either woodland or heath on the open forest, and permanent pasture on back- up land. This has capacity for high carbon sequestration and storage levels. | Regional | These areas are uncultivated but several management techniques, such as river course engineering, drainage for forestry or grazing, and gorse/heather burning have generally dried out heathland soils and peat. This releases carbon and reducing their sequestration ability.<br><br>Some recreational impacts, such as trampling and compaction, and surface erosion of footpaths and bridleways have had similar effects. The same activities have also caused a decline in the condition of designated sites, particularly those associated with wetland.<br><br>Agri-environment projects with partners have demonstrated that these effects can be successfully reversed, with multiple benefits for conservation, recreation and climate regulation.<br><br>The freer draining soils towards the coast are the focus of arable farming in the NCA and their organic matter and carbon storage levels and capability have been heavily compromised where under continuous cultivation.<br><br>Carbon sequestration through permanent vegetation is generally maintained at high levels through good forest and heath management practice on the Crown Lands, but may be affected by poor management of private woodlands and some heathland management techniques. Evidence and good practice in this area is complex and limited.<br><br>Climate change effects on climate regulation capabilities are largely unknown, but various studies have suggested negative impacts on wet habitats. | Continue and expand partner projects to restore natural drainage patterns and retain water.<br><br>Control recreational impacts on heaths.<br><br>Promote good forest management to maximise carbon sequestration.<br><br>Provide advice and support to maximise the carbon storage effects of cultivation.<br><br>Promote good forest management to maximise carbon sequestration, particularly in private woodlands. | **Climate regulation**<br><br>**Biodiversity**<br><br>**Timber provision**<br><br>**Regulating water quality**<br><br>**Regulating water flow** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Regulating water quality** | Existing permanent vegetation cover<br><br>Soils and peat<br><br>Urban areas<br><br>Major roads | Extensive areas of permanent semi-natural vegetation and generally wet, acid soils and peat across the Open Forest , and in the water meadows of the Avon Valley, provide high levels of water filtration and support catchments for rivers and minor aquifers and (See 'Water Availability' for details).<br><br>Urban areas of Waterside, Ringwood and Christchurch conurbation, and roads (particularly the A31) contribute run off and generate sewage discharge. | Local | Agricultural run-off and sewage effluent are affecting the Hampshire Avon. It is now defined as a Priority Catchment for water quality improvements by Defra because of sedimentation and high nutrient levels.<br><br>The River Blackwater is also a Defra priority. It also has very high nitrate levels and sedimentation.<br><br>Both rivers are now the subject of Catchment Sensitive Farming projects, and the Blackwater is a Water Framework Directive project area.<br><br>Both the Avon and the Blackwater have poor ecological potential.<br>The Beaulieu River has moderate ecological status. The Lymington River has moderate ecological potential.<br>Most of the remaining smaller streams within the area are classed as having good ecological status.<br><br>The ecological quality of the Solent to the south of the NCA is moderate. Its chemical condition however is assessed as poor.<br><br>Groundwater chemical condition throughout the area is largely good where it has been assessed. | Continuation and extension of Catchment Sensitive Farming projects in Avon and Blackwater will aid water quality, with public supply, biodiversity and recreational benefits.<br><br>Management of New Forest heaths and woodlands, as described above, will also benefit water quality.<br><br>Co-operation between land and marine management partners to pursue joint initiatives which improve Solent water quality.<br><br>Potential for partner projects on road run off, and with Environment Agency, water authorities and urban local authorities on the implementation of sustainable urban drainage systems. | **Regulating water quality**<br><br>**Biodiversity**<br><br>**Water availability**<br><br>**Recreation** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Regulating water flow** | River valleys and catchments<br><br>The Solent | The 3 NCA catchments of the Hampshire Avon, Test (and Itchen), and the New Forest rivers are the subject of Environment Agency Catchment Flood Management Plans (CFMP) that set out current flood risk and policies for its future management in each area (references above).<br><br>The Avon, which has its source and major chalk catchment to the north of the NCA, has a long history of flooding across the floodplains of the lower valley. This mainly affects Fordingbridge and Ringwood. Fluvial flooding also affects Christchurch at the mouth of the river.<br><br>The rivers in the NCA that drain to the Avon are short steep streams that flow down the western escarpment from the plateau and, because of their relatively impermeable geology, fluctuate rapidly in response to rainfall.<br><br>The New Forest rivers that flow mostly through rural areas directly into the Solent or Southampton Water also fluctuate with rainfall. The urbanised Danes Stream at Milford on Sea is particularly prone to flooding.<br><br>Other areas at risk are Brockenhurst, Lymington and Keyhaven. In the latter two areas tidal conditions also have an effect.<br><br>The River Blackwater also fluctuates strongly because of its clay geology. However this is a rural area with no significant settlement at risk of flooding. | Local | The landscape's semi-natural habitats play an important role in regulating water flow and reducing flood risk by helping to store and hold back water. Past drainage operations on heaths and in woodland, including river course engineering, have exacerbated run off problems, as well as affecting wetland habitats.<br><br>Flood relief structures in the Avon Valley have also affected water meadow habitats.<br><br>A predominant policy of the New Forest CFMP is to take action to store water and manage run-off in locations that both support and enhance wetland habitats and help to alleviate flooding downstream. This approach will also benefit the Avon by influencing flow rates and fluctuation in the westerly flowing streams.<br><br>Flooding in Lymington and Milford/ Milton can, in part, be alleviated through Sustainable Drainage Systems as part of a Surface Water Management Plan. | More widespread implementation of schemes to enhance water storage will also potentially benefit wetland habitats and species, carbon sequestration and storage, and the recreation value of watercourses in the landscape. | **Regulating water flow**<br><br>**Regulating water quality**<br><br>**Climate regulation**<br><br>**Biodiversity**<br><br>**Recreation** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Regulating soil quality** | Soils and peat | The northern and central parts of the plateau are covered with sandy/loamy acid soils with high organic content. Areas of peat occur on ridges and plateau tops.<br><br>The Avon Valley has similar loamy soils, with peat layers and naturally high groundwater.<br><br>Further south, towards the coast, free draining loamy slightly acid soils have lower organic content and consequent poorer structure. | Local | The slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils may suffer compaction as they are easily damaged when wet, which in turn may lead to increasingly poor water infiltration and diffuse pollution as a result of surface water run-off.<br><br>These issues also affect the loamy soils with naturally high groundwater where groundwater remains high.<br><br>The freely draining slightly acid loamy soils are valuable for aquifer recharge, requiring the maintenance of good structural conditions to aid water infiltration.<br><br>All three soil types all have the potential for increased organic matter levels through management interventions, helping mitigate some of these issues. | Support further partner projects to reverse drainage engineering and manage recreational and other impacts will help the regulation of quality. At the same time this will increase water holding capacity and carbon sequestration.<br><br>Wetland habitats and species will also benefits from these actions.<br><br>In arable and other farmed areas, extend advice and support for land owners/ managers to prevent compaction, encourage techniques such as minimum tillage, and increase organic matter. This will help retain and improve soil structure, assist water flow and climate regulation, and reduce soil erosion.<br><br>There is potential for growing short rotation coppice to enable these outcomes. | **Regulating soil quality**<br><br>**Regulating water quality**<br><br>**Climate regulation**<br><br>**Biodiversity**<br><br>**Regulating soil erosion**<br><br>**Food provision** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Regulating soil erosion** | Soil and peat<br><br>Rivers and watercourses | The main areas with high risk of serious erosion are the arable farmed areas towards the coast where soil is cultivated, free draining and loamy with low organic matter.<br><br>The Avon has been designated as a Priority Catchment by Defra due in part to soil structural degradation that has led to sedimentation of the watercourses.<br><br>The Test, including the River Blackwater is a Priority Catchment, also partly due to issues of sediment runoff. | Local | The soil underlying the main arable area of the NCA have enhanced risk of erosion on moderately or steeply sloping land or where bare soil is exposed. This is exacerbated where organic matter levels are low after continuous arable cultivation or where soils are compacted.<br><br>On these soils there is also the potential for wind erosion if heavily trafficked, or after heavy rain.<br><br>The remainder of the area's more acid, naturally wet soils have a low risk of erosion. These soils however are almost entirely uncultivated and therefore erosion can become a factor where vegetation is removed and the surface is eroded. This can result from compaction or overuse, for example on footpaths, or where soils have dried out as a result of drainage operations or burning. | In arable areas extend advice and support for land owners/ managers. Advice should cover techniques such as minimum tillage and contour ploughing, the introduction of buffer strips to hold sediment, extend vegetation cover and increase organic matter inputs. This will also assist soil quality, water flow and climate regulation.<br><br>There is also some potential for biomass crops to contribute to these outcomes.<br><br>Expand partner projects aimed at reversing water course and drainage engineering, influencing harmful management techniques and controlling recreation impacts. | **Regulating soil erosion**<br><br>**Regulating water quality**<br><br>**Climate regulation**<br><br>**Biodiversity**<br><br>**Regulating soil quality**<br><br>**Food provision** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Regulating coastal erosion and flooding** | The New Forest coast<br><br>Christchurch Bay, West Solent and Southampton Water<br><br>Cliffs, shingle, spits, estuaries, salt marshes, mudflats and lagoons | The Southampton Water and West Solent coast is a continuous stretch of overlapping SSSI, SAC and SPA designations covering coastal features and habitats. The Solent Maritime SAC area includes the seabed below Mean High Water mark. West of Hurst Spit the low cliff coast is a geological SSSI from Highcliffe to Milford.<br><br>Two Shoreline Management Plans cover the area - 'Poole and Christchurch Bay', and 'Selsey Bill to Hurst Spit'. These plans provide a high level policy approach to coastal management in response to expected sea level rises over 3 epochs. West of Hurst Spit is a mixture of 'hold the line', 'managed retreat' and 'no active intervention', the latter where there are no settlements on the clifftop. Hurst spit, the most significant coastal process feature is 'hold the line'.<br><br>East of Hurst Spit, in the most sensitive areas environmentally, the policy is to 'hold the line' (important marshes and lagoons) or take 'no active intervention' where coastal habitats and features will be allowed to migrate inland. | National | Coastal processes follow a generally eastward movement, with eroded material from the soft low cliffs of Christchurch Bay and further west, being carried east up the Solent and deposited in the form of spits and sandbanks from Hurst Spit to Calshot. In the shelter of these features, further deposition, including river sediment, has formed important marshes and mudflats, supporting most of the designated habitats.<br><br>Sea level rise, increasing violent weather events and coastal squeeze generally are threatening these deposition features. Areas of marsh, in particular, are being gradually lost, and artificial recharge is required to retain the protective features. | Pursue projects with partners and private landowners to secure areas of managed retreat, allowing designated habitats to extend inland in response to squeeze. This will also maintain the erosion protection of coastal features.<br><br>The effect of sea level rise provides a live and clearly visible example of climate change and its effect on precious and cherished national assets. This is potentially a powerful tool for education and awareness-raising. | **Regulating coastal erosion and flooding**<br><br>**Biodiversity**<br><br>**Recreation**<br><br>**Sense of history**<br><br>**Tranquillity** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
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| **Sense of place/ inspiration** | The New Forest<br><br>Avon Valley<br><br>Waterside shoreline<br><br>The coast, including seascape and views to the Isle of Wight | The internationally renowned and recognised distinctive features and elements of this landscape are described in the early sections of the Profile.<br><br>The two iconic images of popular culture are the New Forest pony, wandering freely across roads and open landscapes, and the massive green bulk of mature, ancient oak trees, symbolic of English pride and history, standing in open forest.<br><br>The sense of place and inspiration they provide for residents and visitors, along with their internationally recognised biodiversity value, is the justification for the establishment of the New Forest National Park. This was the first to be designated since the first National Parks were created in the early 1950s, following the 1949 Access to the Countryside Act, and the first in the south-east of England. Together the pony and the oak form the symbol of the Park. | International | It is the unusual combination and attractive nature of these features, their place in the popular image of the English countryside, and the contrast between them, that provides a sense of place and inspiration in south-east England. This is further enhanced by their proximity to neighbouring, heavily urbanised, metropolitan regions.<br><br>The area has long held a popular attraction as a day trip and holiday destination for outdoor activities, particularly camping and caravanning. This was built on the popularity established initially by Victorian naturalists and collectors, based on its species richness.<br><br>The increasing popularity, combined with various post- war and more recent trends has led to an exponential increase in visitors, the demands they make on the area and their impact on it. For example car-based trips, desire for rural living and commuting, rise in second home ownership, expanding activities such as off-road cycling and horse keeping, and the level of interest in natural history.<br><br>These combined trends have the potential to reduce the value and quality of the sense of place and inspiration. | There is scope for harnessing the level of public interest and recreational activity, including its economic potential, for the benefit of the features and characteristics that provide the sense of place and inspiration.<br><br>Examples of these opportunities include:<br>■ Generating income to support commoning from the sale of New Forest products.<br><br>■ Education and awareness of the importance of commoning.<br><br>■ The management necessary to retain the landscapes and the species that rely on them.<br><br>■ The impacts of recreational activity.<br><br>On the coast similar opportunities arise in terms of the protection and continuation of the coastal landscapes and the link with climate change. | **Sense of place / inspiration**<br><br>**Food provision**<br><br>**Tranquillity**<br><br>**Biodiversity** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
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| **Sense of history** | Evidence of the origins of the New Forest as a mediaeval royal hunting forest<br><br>Remains of pre-historic human occupation<br><br>Avon water meadows<br><br>Historic forts, castles, and other structures<br><br>Coastal industries<br><br>Commoners and foresters cottages and farmsteads<br><br>Second World War military installations<br><br>Ancient trees | The historic features of the area are described in the earlier sections of this Profile.<br><br>The number and extent of designated and protected historic sites illustrates their importance, for example, 340 bronze-age barrows, 214 Scheduled Ancient Monuments (10 per cent of all those in the south-east of England, of which 30 per cent are at risk), 20 Conservation Areas, 622 listed buildings (of which 2 per cent are at risk), 7 listed historic parks and gardens, 1,787 buildings of local historic interest in Conservation Areas.<br><br>Uniquely, the area also contains historic natural features, notably one of the highest concentrations of ancient and veteran trees in the England. The oldest are over 400 years old. | National | The sense of history is not such an obvious element of the landscape or the attraction of the area for visitors, apart from the top visitor attractions such as Beaulieu and Bucklers Hard. However, the forest landscape and traditional management by commoners has many strong historical links and traditions unique to the area.<br><br>The National Park has raised the importance of these features, for example through the designation of Conservation Areas, but they represent an asset with potential. | There is scope for harnessing the level of public interest, including its economic potential, for the benefit of the features and characteristics that provide the sense of history. | **Sense of history**<br><br>**Sense of place / inspiration** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
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| **Tranquillity** | Uncultivated open access areas of semi natural habitat (mainly heath and woodland, and remote coastal areas)<br><br>Low density of population, settlement and road network<br><br>Large blocks of open countryside with no intrusive elements | Large areas of the NCA, particularly parts of the National Park along and inland of the Lymington to Calshot coast, and between Fritham and Godshill have been measured on the CPRE scale as having high levels of tranquillity. These levels are rare in the context of south-east England. | National | Visitor surveys have established that tranquillity is an important element of the New Forest experience, both in terms of the experience of the landscape, and the effects on health and wellbeing. It adds to the contrast with the areas surrounding it and southern England as a whole.<br><br>Tranquillity levels have declined significantly in recent years, with 'undisturbed' areas decreasing from 72 per cent in the 1960s to 34 per cent in 2007.<br><br>The main sources of noise intrusion are the M27 and A31, as well as other roads connecting the main towns, and air traffic from Bournemouth and Southampton airports.<br><br>Visual and light (dark sky) intrusion comes from the two urban conurbations flanking the area, the power station, power lines, oil refinery and dock structures on the Waterside, and lights from traffic crossing the forest on roads across higher ground. | Work with partners and key responsible agencies on projects designed to address tranquillity and intrusion levels generally.<br><br>Promote the level of tranquillity as an attraction and major asset of the area, and use the effects of noise and light pollution to raise awareness. | **Tranquillity**<br><br>**Recreation**<br><br>**Sense of place / inspiration** |

| Service | Assets/ attributes: main contributors to service | State | Main beneficiary | Analysis | Opportunities | Principal service offered by opportunities |
|---|---|---|---|---|---|---|
| **Recreation** | The National Park<br><br>Undesignated coast and offshore waters<br><br>The Avon Valley<br><br>Solent Way<br><br>Cycleways<br><br>Rights of way network<br>Holiday parks and camping sites | Recreation is a very significant feature of this NCA, with 75 per cent designated as a National Park, around 29,600 ha of which is open access land.<br><br>There are 523 km rights of way network and 171 km of dedicated cycle routes. The most recent figures for the National Park indicate 13.5 million visitor days per year (2004/5).<br><br>There are numerous campsites, holiday parks and hotels throughout the area, with recreational opportunities ranging from walking, cycling and horse riding to sailing and kite surfing along the coast.<br><br>In addition to the open countryside, there are also specific visitor attractions such as Beaulieu Motor Museum, Bucklers Hard shipbuilding centre, Paultons Park, Lyndhurst Visitor Centre, Lymington Marina and Sandy Balls holiday centre. | International | This is a primary ecosystem service of the NCA based on the intrinsic quality of the environment and the visual, tranquillity and cultural attractions of the landscape.<br><br>The unique presence of commoners' animals, the value of its biodiversity for naturalists, and the suitability and facilities of the area for activities such as horse riding, cycling, walking, orienteering and sailing, and less formal activities such as dog walking, are all specific attractions.<br><br>As well as a venue for long- and medium-stay holidays, day trips and short visits from the surrounding towns and cities, the area is also an increasingly attractive area to live in because of the lifestyle opportunities. This has resulted in high levels of in-migration both to the National Park and areas such as the Waterside and the Lymington, New Milton and Ringwood areas over recent years. Planned growth in both South Hampshire and south-east Dorset is likely to add to these pressures.<br><br>Data on visitor numbers is a difficult area but recent estimates[10] suggest that development within 50 km of the National Park, between 2006 and 2026, will generate an additional 1.05 million visitor day per year. This will bring benefits in terms of health and wellbeing, significant contribution to the local economy and opportunities for education and awareness raising. At the same time recreational activity has impacts on the landscape in the form of fragile habitat erosion and disturbance, and the potential to affect one of its main attractions, its tranquillity. | Work with partners to support and implement the New Forest Recreation Management Strategy and similar priority actions in areas of the NCA outside the National Park.<br><br>Establish research projects to improve the evidence base on the relationship between recreation and habitat/species erosion and decline.<br><br>Support strategies and proposals for green infrastructure in South Hampshire and Bournemouth/ Poole that provides alternative venues for local trips.<br><br>Utilise the opportunities for education and awareness-raising with visitors and residents. | **Recreation**<br><br>**Sense of place / inspiration** |

[10] Changing Patterns of Visitor Numbers Within the New Forest National Park, Footprint Ecology 2008

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|---|---|---|---|---|---|---|
| **Biodiversity** | International and national designated areas (SAC,SPA, Ramsar and SSSI) | Over 40 per cent of the NCA is designated as SAC, SPA or SSSI, and the majority is covered by all 3 designations. The largest area is that covered by SSSI, 34,977 ha, making up 44 per cent of the NCA. Most of this is in the National Park, all but 3 per cent of which is also SAC and SPA.<br><br>64 per cent of the area of the New Forest SSSI is in favourable or favourable recovering condition.<br><br>There are 3 National Nature Reserves s; Langley Wood in the north of the National Park, Kingston Great Common west of Burley and North Solent which is essentially the Beaulieu River estuary and coast to its east and west. | International | Biodiversity is an important ecosystem service benefit of this NCA. The core of the NCA covered by the New Forest and generally co-terminus with the New Forest SSSI is unique in England, covering the largest remaining areas of semi-natural habitat in lowland Europe. This is a mixture of open heath, wet mires, woodland plantation and unenclosed wood-pasture.<br><br>Outside the New Forest SSSI there are many other important designated sites covering similar habitats, plus the water meadows and water courses of the Avon Valley, and the salt marshes, lagoons and shingle communities of the Solent coast. | Work with partners to target investment to bring all designated habitats in to favourable condition.<br><br>Provide support and advice to land owners and managers with responsibility for designated sites.<br><br>Establish education and awareness programmes to improve understanding of the management necessary to maintain sites in favourable condition and the activities and other impacts that affect condition. | **Biodiversity** |
| **Geodiversity** | Coastal features long the west Solent that reveal geological processes | The cliff line from Highcliffe to Hordle is designated as a geological SSSI. Of the 9 units, 4 are in favourable condition and 5 unfavourable with no change. | Regional | The cliffs expose the internationally recognised Barton Beds, a division in the Eocene clays which form the underlying geology of the NCA. It is outside the National Park and in an area which is popular as a seaside destination. Extensive suburban development, between Christchurch and Milford-on-Sea, has taken place on the land above the cliff. | Work with partners to establish appropriate management of the cliff and establish educational and awareness raising programmes and information for site users and residents. | **Geodiversity** |

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