PART 2:

AN OVERVIEW OF THE HAMPSHIRE LANDSCAPE
4. PHYSICAL INFLUENCES

4.1 Geology

The underlying geology of Hampshire has a profound influence on today’s landscape via topography, soils, vegetation and hydrology. In the past, geology also influenced local building materials and styles, creating distinctive local vernacular. There are three main geological areas in Hampshire, shown in Figure 4.1.

- HAMPSHIRE WEALD. The oldest rocks in Hampshire outcrop to the east of Alton. These are greensands and gault formations, deposited in the Lower Cretaceous period. Several different rock strata outcrop here in a relatively small area, forming a varied and distinctive landscape.

- CHALK. This distinctive white rock dominates much of central Hampshire. Chalks were deposited in the Upper Cretaceous period, and are present in a broad and thick belt across the county, forming characteristic hills, scarps, and downlands.

- HAMPSHIRE LOWLANDS. Both north and south Hampshire are characterised by softer clays and sands which were deposited later, in the Tertiary period. There is also a large concentration of soft, unconsolidated (superficial) deposits in these lowland areas from the Tertiary and Quaternary periods.

There is also major watershed in north Hampshire, running through Basingstoke. Rivers north of the watershed flow into the Thames, and south of the watershed into the Solent. These two large river basins are known geologically as the London Basin and the Hampshire Basin.

The different rock formations in Hampshire are all sedimentary, but their properties vary considerably because they were formed under different conditions. Over the vast span of geological time, tectonic activity has moved the land surface geographically and altered it’s topography and hydrology. Sea levels have also risen and fallen under different climatic conditions. The white chalks for example, were deposited when sea levels covering the South Coast were very high. The pure white colour of these limestones reflect the absence of land-based sediments; the main material is calcareous plates called coccoliths derived from the skeletons of billions of planktonic creatures. Many earlier and later layers were formed under shallow seas, rivers or swamps, and comprise sands, silts and clays. Formations of rocks which were deposited in the same geological era are often summarized into different stratigraphic groups as shown in Figure 4.1a. There are also various unconsolidated (superficial) deposits present (Figure 4.1b), including glacial till, sands and gravels, laminated clay and colluvium, alluviums, river terrace deposits, peat and coastal and estuarine deposits.
Figure 4.1: Simplified Geology a) bedrock and b) bedrock and superficial deposits
British Geological Survey 1:625,000 mapping
4.2 Topography and hydrology

Figure 4.2 shows the current landform of Hampshire. Uplifting and folding of the chalks and greensands in the Tertiary Period, together with natural physical processes such as erosion have created the distinctive pattern of high and low ground, complete with scarps, dipslopes and plateaus.

![Figure 4.2: topography and hydrology](image)

The hydrological watershed between the Hampshire and London basins can be clearly seen in Figure 4.2. The River Enborne marks part of the Hampshire/Berkshire border, and the River Blackwater marks part of the Hampshire/Surrey border. Several rivers which flow into the Solent form major river valley landscapes.

The geology of the river catchments has an effect on their biodiversity character (Section 8). The rivers which originate in the chalk, and largely flow through it, are internationally important for biodiversity and renowned for the quality of their fishing. As they flow through the lowland clays, rivers progressively pick up and carry more sediments. The New Forest
rivers and River Blackwater drain through sands, gravels and peat, and so are more acidic, although they are locally important for biodiversity.

The permeable chalks also form an important water resource in the form of a large aquifer. Rainfall is stored naturally and slowly drains out all year round as springs and seepages to maintain flows in the chalk rivers. Water is however, a pressured resource. The South East River Basin District relies on the aquifers for 72% of drinking water, plus there is significant demand for abstraction for energy production, commercial/industrial uses and agriculture. The aquifer also regulates the flows of the rivers, so abstraction of groundwaters and water directly from the river will affect flow.

Significant issues include over-abstraction, pollution from nitrates, organic pollution, pesticides and phosphates, plus urban and transport pollution, and physical modifications which have been made to water courses. Population pressures combined with climate change is likely to see increasing water demand and reducing water availability which presents a particular challenge for the future.

Sources of information


5. THE EVOLUTION OF THE HAMPSHIRE LANDSCAPE

The Hampshire landscape has been evolving under human influence since the Neolithic, and this history is etched into the fabric of the countryside. The fields, woods, tracks, commons and downs, hangers, hamlets and villages can describe hundred of years of evolution. Through careful study of the residual fragments, we can see glimpses of landscapes from thousands of years ago, giving our modern landscapes a time depth and cultural richness. Hampshire’s Historic Landscape Characterisation (HLC) mapping identifies the historic processes that can be traced in the modern landscape. Not surprisingly the most recent changes to the landscape dominate both the rural and urban landscape, but the impact of earlier human lives on the landscape can occasionally be traced. Archaeological evidence can imply the sort of landscape that existed where traces are no longer present to view. Past features are easily over looked and erased however, and it is important to ensure that the valuable history of our countryside is identified and protected from the pressures of change and threats of destruction, within the management of the wider landscape.

5.1 Palaeolithic

The earliest evidence of Man’s existence in the county dates from 700,000 years ago, represented by flint implements found mainly on the coast and in river valley gravels. Following the last ice around 12 thousand years ago a rise in temperatures occurred and a more temperate landscape emerged as tundra gave way to pine and birch woodland and then to deciduous forests, grasslands and heath. The lives of Palaeolithic people are hard to discern through archaeological study, but it would have been to them a landscape of routes and resources for hunting and gathering, probably moving in small groups and following seasonal patterns.

5.2 Mesolithic c. 10,000-4,000 BC

Mesolithic archaeological evidence includes distinctive stone tools. In the early Mesolithic there are large clusters of flint scatters on the upper and lower Greensand in the east of the county, often on bluffs over looking water. Almost all early Mesolithic sites so far found in the county are in East Hampshire in the greensand landscapes. Hazelnuts found on these camps suggest they may have been seasonal, but large quantities of worked flint tools represent repeated reuse of a camp site over many generations.

By the late Mesolithic this pattern was changing. Smaller more dispersed camps are visible from the evidence, with weaker and dispersed patterns over a wider part of the Hampshire landscape. This might be as a result of changing population levels, or reflecting the changing climate and natural vegetation succession. The location of camps suggest an association with water, and preference for sand and gravel areas, but it seems likely that people were moving through the landscape more widely. There are Mesolithic artefacts through the lowland, coastal and New Forest landscapes. Mesolithic evidence in the chalk lands is very light, despite survey.

There is little archaeological evidence for adaptation of the landscape by humans in the Mesolithic. Wider study suggests that some woodland clearance may have taken place,
perhaps to attract browsing animals or encourage useful plants. Humans may also have influenced vegetation succession by burning off areas of the landscape.

5.3 Neolithic 4,000-2,200 BC

Gradually adaptation practices became more marked and somewhere between 6,000-4,000 years ago turned from small interventions to marked influence – the agricultural exploitation of crops, livestock and other resources, producing sufficient food to allow a settled existence. Initially settlement may have been periodic and seasonal rather than permanent, then evolving into permanent settlement. Farming is also likely to have changed in character and scale over a long period, and to have originated and progressed in some areas where conditions were better suited to the early crops and technologies, and not in others.

Evidence of Neolithic activity in the county is abundant and widespread but it is difficult to trace the transition from a mobile to a settled agricultural lifestyle using archaeological evidence. It has been suggested that the core areas of early Neolithic farming are the zones associated with Long Barrows, the earliest monuments of our landscape. There is a clear correlation between the distribution of long barrows and open downland landscape types, implying that the earliest agricultural communities emerged in these areas. The evidence however, indicates that all Hampshire landscapes were utilised and exploited. The settled farming communities may have also needed hunted and gathered resources, but it is also possible that mobile hunter-gatherer communities continued to exist in some landscape areas. It is difficult to know however, how these peoples lived and the exact role of the long barrows. One interpretation is that the burial mounds acted as a means by which communities secured permanent rights to the land for cultivation, invoking ancestral rights to land that they had modified over generations.

5.4 Bronze Age 2,500-700 BC

Settlement on the chalk landscapes continued into the Bronze Age, and farming intensified. Evidence suggests a managed and controlled landscape of mixed arable and pastoral regime with woodland, with field systems, and unenclosed settlements in amongst the field systems. Evidence for settlement can be hard to find (implied by surface scatters of pottery and flint). The concentration of evidence on the open chalk downland, in the river valleys and on the coast shows that the extent of the agricultural landscape has expanded, although the emphasis is still on the open down land and other chalk landscapes.

In the mid to late Bronze Age, reorganisation and intensification of agriculture on the chalk seems to be most dramatic. Fields and linear divisions become more prominent and important. Linear ditches, or Ranch Boundaries, appeared at that time, large scale landscape boundaries which clearly define territories although their precise role is not known. They might have divided land uses, such as arable from grazing (hence Ranch Boundary), or defined territories, although it is clear is that they were not defensive. They possibly reflect intensification and competition within the landscape. Late Bronze Age evidence of soil erosion may give a clue as to the need for this reorganization, probably with more emphasis on soil management and animal husbandry. The field investigated at Windy Dido suggests that they are field systems in long established open grass land. It is probable that some of
Part 1: An Overview of the Hampshire Landscape

Neolithic Sites and Finds in Hampshire. 1:351,500.
our present landscape components were established at this time, although it is difficult to conclusively identify remnants in our present landscape.

One of the typical monuments of the Bronze Age is the round barrow, or tumulus. These are widespread across many landscapes in Hampshire including lowland, coastal and heathland areas beyond the settled agricultural zones. This implies a changing role of burial monuments in the Bronze Age. Their distribution does not necessarily indicate an expansion of the farmed land or permanent settlement, but as a visible element of the landscape they do imply that those landscapes were valuable. Exploitation of the woodland wooded heath and coastal landscapes may have been competitive and burial mounds placed there to invoke rights to landscape use. For example, evidence suggests that the New Forest was mainly exploited from adjacent settled areas, particularly the Avon valley. A transhumance model would fit well (the seasonal movement of people with their livestock). It is possible that areas of north Hampshire were exploited in a similar way from the Kennet valley.

5.5 Iron Age  800 BC - AD43

Farming started to intensify and specialize in the Iron age, supporting European trade and urban populations in the later Iron Age e.g. at Calleva Atrebatum (Silchester), where an Iron Age settlement preceded the Roman town. The greatest extent of field systems and settlement hierarchies have been found on the open downland, and evidence suggests that woodland was extensively cleared here by the late Iron Age. Settlements on the downs were enclosed and embedded within the field systems. They often had Bronze Age origins, which evolved through the Iron Age and Roman period. The chalk landscape is also studded with hillforts such as Old Winchester Hill, Danebury, and Beacon Hill. These important central defended sites indicate political and/or military control of the landscape and perhaps of land use.

The non-chalk landscapes were also being permanently exploited. The degree of settlement and field systems in these areas is often much more limited and in places absent, indicating less intensive agricultural uses such as seasonal grazing, or small-scale production in particular pockets. The density of Hillforts through the lowland belt and into the New Forest is comparable to the density of Hillforts in the chalk suggesting that the resources here were valuable and land use controlled. It may be evidence of continuing transhumance from the Avon Valley and the downs into the New Forest. East of the open chalk landscape, Hampshire hillforts are less numerous. Banjo enclosures (enclosures with tracks and antenna, thought to be for stock) are found across the chalk, but there is a thickening of distribution in a line between Winchester and Basingstoke along the Candover valley. This corresponds with the landscape division between open downland and the more heavily wooded chalk-with-clays. Communities on the edge of this forest landscape would have had greater access to grazing, thus perhaps needing more stock enclosures than communities to the west. The distribution of Banjo enclosures may reveal an east/west frontier between intensively used and extensively used landscapes.

A possible interpretation of the pattern of Hillforts, settlements and field systems within Hampshire landscape is that in the Bronze Age references to the ancestors via burial
mounds was sufficient to confer rights and control land use. By the Iron Age burial mounds had been replaced by organised military or political control via hillforts, with an implied hierarchy of warriors and chiefs and the possible imposition of land use rules by a social hierarchy with a financial interest in that land. The location of later Saxon Forests is also perhaps no coincidence. It is possible to speculate that wooded and woodland with heath landscapes were also used for privileged hunting in the Iron age, where agriculture was prevented not just by limitations of technology but also by political directive. It is also possible that there are remnants of the Iron Age landscape in our own – patterns of territories and estates, land-use divisions such as arable farming on the chalk and mixed farming in the lowlands, and structural elements such as tracks and lanes - that have their origin in the late prehistoric.

5.6 Roman – AD 43-410

Roman influence on the landscape lasted for four hundred years, and included urbanization, population growth, and the extension of agriculture into more marginal areas.

Urbanization included the building of fortified and unfortified towns. Within the rural landscape villas and farmsteads were built, and a new strategic road network laid out over the irregular pattern of earlier fields and trackways. The towns had new, urban, features - town walls, a planned street layout and public buildings such as baths, temples and theatres. Winchester and Silchester were the two main towns, alongside nearby Chichester, but there were also a number of small market towns such as Havant, Neatham near Alton, and East Anton near Andover.

Agricultural production was highly valued, capable of supporting urban populations and trade with the empire. Intensive farming continued on the chalk where large field systems with embedded farms are evident. The landscape matrix was evolving, but had a large inheritance from the late prehistoric. In rural areas there was increased nucleation of rural settlements prior to and after the invasion, with smaller marginal farms being abandoned and larger complex settlements developing as villa farm estates. Whilst farms and estates were probably amalgamated, the evidence suggests continuity of ownership and tenure embedded in the Iron Age field systems, but with continued modification in the Roman period. The villa was a new feature of rural settlements, large farmsteads standing within their own agricultural estates – often more sizeable than the later medieval Parishes. In Hampshire villas were particularly located in the major river valleys, lowlands, on the fringes of the chalk, and around the towns.

It is possible that the new villa estates established on the margins of the chalk reflect advancing agricultural technology which allowed new ground in the woods and heaths of the lowlands to be farmed. They may however, represent a ‘disafforestation’ process sanctioned by the controlling authority. The value of woodland, and management of woodland is implied but has not been shown. Timber was a valuable commodity needed for fuel for industries such as brick and tile production, iron smelting and potteries, as well as for building material and for domestic use. Coppice and other sustainable woodland practices are likely. It is possible that before the Saxon royal hunting forests came Roman hunting estates, exploited for food and timber resources.
Iron Age Settlements. 1:351,500
Roman Sites. 1:357,300
Evidence of the Roman occupation is still present in our modern landscapes. The distinctive Roman roads, for example, have survived in many places as routes or boundaries. Less distinctive rural routes and tracks cannot be so easily traced but in some cases have survived in our present network of rights of way, lanes, tracks and roads. Some are certainly referred to in the Saxon charters as surviving from the previous landscape. Added to this is the potential for rural estates and administrative territories to also have survived within the present landscape.

5.7 Early Medieval (Anglo-Saxon period) AD 410-1066

From about 406 onwards Britain was withdrawn completely from the protection of Rome. A power and economic vacuum was left, and southern England faced increasing numbers of invasions. By the 440s the region had passed into Saxon control. The lack of evidence of the early Saxon period presents many questions - where the invaders settled, and their impact on the remaining native population. Roman skills and culture, including Christianity, writing, construction and engineering, seem to have been lost completely, although agricultural production continued.

The early Saxons built with wood, straw, clay and mud leaving a poor archaeological trace. The evidence that does survive indicates a rural agricultural society, who chose not to re-occupy the Roman towns and villas. In some places in the south east early Saxon burial sites were found on the borders of pre-existing estates, indicating that the pre-existing land boundaries were often respected and used. Early Saxon cemeteries and a range of settlements have been found on the chalk hills, such as at Chalton, where evidence of over 60 buildings were found, mostly long rectangular houses or halls. By the 5th Century, nucleation (clusters of dwellings) in the valleys was taking place, and the higher ground left for stock pasture or arable. The densest areas of rural settlement seem to be in the upper valleys of the Test, Itchen, Avon and Meon and the chalklands around modern Winchester, Andover, Basingstoke and Alton. The nucleated village was not introduced by the Saxons, as the landscape was already populated by hamlets and farmsteads, but the focus and location of settlements shifted and drifted through the period.

Short (2006) describes a ‘middle Saxon shift’ occurring between the 8th and 11th centuries, from which a much more organised society emerged with population growth, trading ports, cathedrals, urban centres and a capital city. In rural areas in southern England recognisable villages formed, many ‘planned’ in nature along a main street or around a village green. By the end of the 11th century most of our present day villages were in existence. These were particularly formed around manor farms, and village churches started to be built from the 7th century onwards. New Saxon towns also emerged from the 8th Century. The port of Hamwic which lies beneath modern Southampton had a planned street layout and housed a community of artisans and merchants. Under increasing threat from the Vikings, newer fortified burhs were built under King Alfred, some of which were located on former Roman towns, whilst Hamwic was relocated to a safer spot. King Alfred invested heavily in Winchester, making it the Capital of Wessex. By the 11th Century Winchester had a cathedral, royal palace, mint and garrison, as well as a profusion of tradesmen and shopkeepers. Many of the city’s street names originate from the specialist districts such as Fleshmonger’s Street, Tanners Street and Jewry Street.
It is difficult to ascertain exactly how early Saxon agriculture and landuse was organised, and relationship to the existing systems in place. It is clear that in the chalk landscapes the modern day framework of land divisions and settlement was set in the Saxon period, a feudal system of large manors and estates farmed in smaller units. In the more wooded landscapes the rural framework emerged in a more piecemeal way, with dispersed (isolated) farmsteads and hamlets, woodlands, assart fields carved out of the woodland and twisted rural lanes. It is possible that woodland cover was cleared by 50% between the 5th and 11th Centuries. Evidence for legislation to protect woodland dates from the 8th Century, although the system of Forest Law for privilege hunting may have had much earlier origins. It certainly had an impact on the way that the landscape evolved, with settlement and land use constrained and controlled in Forest areas. Some of the heath landscapes meanwhile had virtually no settlement until the 12th Century.

Hampshire’s recognisable boundaries were recorded in the Saxon period in charters which can be compared with modern boundaries. Both the county boundary and many estate and parish divisions are still present. It is possible that some of these are vestiges of older land use boundaries.

5.8 Medieval AD1066-1540

Following the Conquest, the Normans imposed their rule on an already settled landscape, with it’s patterns of villages and other settlements almost complete, and a level of farming equal to that of later centuries. According to the Domesday Survey in 1086, the majority of people in Hampshire lived along the river valleys, and agricultural wealth was similarly focused there.

The Normans introduced new built elements to the landscape, defensive castles which were an expression of territorial power over the surrounding rural settlements. Monastic foundations increased during the 12th and 13th centuries, large complexes of stone buildings set in extensive estates. Surviving examples include the abbeys at Tichfield, Netley and Beaulieu. Hampshire’s landscape was heavily influenced by the extent of royal and ecclesiastical ownership; 25% of Hampshire’s land was church-owned. There are still many chases and deer parks, as well as a range of medieval fish ponds in the forest areas, which radiate out from Winchester. Once more, it was Hampshire’s agricultural surpluses which financed the building of these castles, cathedrals, monastries, and churches and also supported expanding towns. In contrast with the 14th and 15th centuries this earlier period was relatively free from the later diseases, plagues and wars, and village populations reached their medieval maximum.

Medieval villages were set within the parishes that emerged at the end of the Saxon period, and are still traceable in our present landscape. The Saxon and Medieval open field system which operated within the river valleys started to be enclosed through informal agreements. The strip and furlongs of the open field system were reflected in the enclosures and can be traced in places. ‘Ladder’ field systems provide the structure of these landscapes, with ‘arms’ extending up valley sides and surviving as tracks and parish or estate boundaries although the ‘rungs’ were subject to reordering and changed in character. Beyond the ‘arms’, were larger areas of grazing for large sheep flocks, which was enclosed much later.
Medieval Sites. 1:357,300.
on. Rabbit warrens were also introduced on the chalk downland, often reflected in place names.

In the forest areas, as the population increased and the value of hunting gradually declined the economic potential of land was exploited and plots sold off. A process of disafforestation started in the 12th Century, predominating in the 13th and 14th century, and continued right up until the 19th century. On the lowland heaths and woods, settlement patterns thus developed in a very different way to the chalk valleys, with highly dispersed individual farms, hamlets and common edge settlement. These assart landscapes have a discernible medieval origin, and often betray in their structure previous woodland or estate land boundaries. They are paradoxically our youngest evolving landscapes, but due to late medieval and post medieval change present us with our most distinctively historic landscapes.

Following the population declines of the 14th century, estate managers increasingly relied on leasing land to create income, and this became almost universal by the sixteenth century. This resulted in larger new farms created by yeoman farmers, with farm complexes and new enclosure patterns. With lower populations there were large areas of sheep grazing on open downland with large flocks supporting the important wool industry. On many of the open downland landscapes there would have been the fossilised earthworks of the previous and abandoned late prehistoric field systems.

5.9 Post Medieval (AD1540 – present)

The influences of the post medieval period on the Hampshire landscape are many and varied, set against numerous historical events and trends. The key influences, set out using the broad categories of the Hampshire Historic Landscape Characterisation are summarised below.

5.9.1 Agricultural systems and enclosures

Whilst mixed farming predominated in the medieval period, the chalk downs became increasingly important for sheep in the 15th and 16th Centuries. Sheep then started to decline in favour of arable from the mid to late 17th century, a trend which has continued until today. The 16th century also saw the break up of monastic lands, which had a major landscape impact as these estates were eventually sold off to private land-owners. The trend towards leasing out estate farmland for rent also continued. This resulted in the growth of large privately owned farming estates with new land-owners and tenant farming class completed the shift from a feudal system to a privatized system.

On the chalk the late-medieval land-use changed through informal enclosure-by-agreement to about 1730. Traces of the previous field system survive in some places, particularly the ‘ladder arms’ and some boundaries within the open field systems, although many field boundaries were re-organised by privatisation and enclosure. From 1730 enclosure increasingly occurred by parliamentary act, a process which accelerated after 1800. By mid 19th century, the land was largely enclosed. The effect was the emergence of a new landscape of hedged and usually rectilinear fields, creating formal landscapes from common
land. It is in this period that landscape types such as regular wavy fields and parliamentary type enclosures were established. New machinery and techniques also enabled agricultural expansion into marginal ‘waste’ land such as heaths and marshes.

Agricultural change was accompanied by population growth in the 17th and 18th Centuries, with an average increase of 40% in town populations. Displaced agricultural workers drifted to urban areas and in turn the ‘agricultural revolution’ sustained increasing urban populations. New farming techniques and technologies enabled productivity to be increased provided that private investment be available for new machinery and inputs such as artificial fertilisers.

Regional farming specialisation increased during the 17th and 18th Centuries. Hampshire farmers were in a position to supply London, military bases and export markets, at a time when there were advances in transport. Arable production increased on the chalk downs, particularly stimulated by high grain prices during the Napoleonic war. At the end of war the grain price collapsed causing depression across the farming industry, with resulting diversification from grain into milk and dairy produce, hops in the east Hampshire greensands, and market gardening on fertile soils in south Hampshire.

One regionally important and distinctive historic landscape from this period are water meadows. These are often an important aspect of the chalk valley bottom in Hampshire where arrangements of carriers and drains allowed the meadow to be flooded late in the winter supplying the field with nutrients and protecting the grass from frost.

The archaeology of agricultural buildings across Hampshire and Berkshire reflect the evolution of farm improvement, the opportunities for diversification and the fluctuation in farm prices. In the east of Hampshire for example, oast houses reflect the hop gardens of that area.

5.9.2 Urban Development

In the 15th and 16th Centuries, towns provided a local market for agricultural products, and were increasingly places where the processing of agricultural products took place such as wool-based textiles and flour milling. The decline of sheep farming in the 17th Century caused much hardship in the urban populations although prosperity returned later in 17th century as the scale of urban industries increased. Transport improvements (road, canal and rail) resulted in fewer but larger industrial complexes replacing smaller local cottage industries.

After 1750, the south East experienced a population explosion and the start of settlement expansion on a large scale. The population increased from 145,000 in 1801 to almost 1,240,000 in 2001. The urban areas particularly expanded, due to their employment opportunities.

New forms of transport, such as the railways, allowed unprecedented travel and access. People could live further away from their place of employment, which lead to the rise of the suburbs. Coastal resorts developed where people could spend their new ‘leisure time’ in. Piecemeal growth was accompanied by planned suburbs from the 1900s with an underlying
ethos of the ‘suburban ideal’; spacious well-designed houses in leafy lanes, a reaction against the Victorian urban areas with their grime, health and sanitation issues.

Urban expansion continued during the inter-war years, although there was an increasing reaction against the lack of planning and development controls. Eventually a range of legislation was passed in the 1940s to protect the countryside such as Greenbelt Acts, the Town and Country Planning Act, National Parks and Access to the Countryside Act. Whilst this halted unplanned development, population growth has meant that large scale settlement developments have continued in every decade since.

5.9.3 Extraction

The differing geology in different parts of Hampshire enabled a range of extractive industries to be developed from Roman times onwards, and possibly before, intensifying in the medieval and post medieval period. Extraction has left distinct traces in the landscape, and is an on-going land-use today. Brick, tile and pottery industries arose to supply growing urban populations using clay deposits in the lowlands. Small scale chalk extraction was widespread on the downs for lime mortar and lime fertiliser. Most large farms had their own pit and kiln to make fertiliser, leaving an archaeology of ‘dells’ and pits. There was a small amount of Malmstone (coarse sandstone) extraction from Binstead and Selborne which contributes to local distinctiveness within the local vernacular. Gravel has been extracted across the Hampshire and London Basins. Until the 20th Centuries these were smaller scale local pits; from the 1840s, larger scale extraction was needed for the railways and in the 20th Century has been extracted on a large scale.

5.9.4 Manufacturing

Hampshire did not industrialize in the same way as the counties of the Midlands and North in the 18th and 19th centuries and the economy was largely agriculture-based. The processing of agricultural products did however industrialise, and agricultural machinery industries also developed. Other notable local industries include military supply, shipbuilding, aircraft, and railway transport.

Large ship-building firms were based at Southampton and Portsmouth. Together with supporting industries, including rope making, canvas sail making, coopering and victualling, these have a distinct heritage. The two firms declined and merged in the 20th Century, but Vosper-Thornycroft still survives today in Portsmouth. The Iron works at Funtley manufactured high quality forged iron for both the shipbuilding and naval supply industries, and also re-processed iron scrap brought in from the dockyard into naval supplies. Both shipbuilding and the iron-works were timber hungry, and had a landscape-scale impact. The woodland of the New Forest and the Forest of Bere supplied timber for shipbuilding and also wood for charcoal which was necessary for the iron works and other industries. The Forestry Commission was set up in 1919 because woodland across the UK had became so scarce.

A further iron-works, Taskers operated from Andover and carried out small scale manufacturing aimed at the local agricultural market, principally machinery, transport and traction engines. The Eastleigh carriage works and locomotive works which developed in
the mid to late 19th and early 20th centuries gave this town a rare local industrial character. Both industries have now declined.

Use of the rivers and streams in Hampshire for power was recorded in the Domesday Book. The flow of chalk streams is particularly steady and reliable. Initially these powered small rural local mills, processing rural produce such as flour. Through time some of these developed into large establishments, especially where associated with large towns on powerful rivers. There are however, few examples of windmills. They are likely to have been much more frequent than current archaeological records suggest. Windmill technology did not develop on an industrial scale, and they are less frequently represented on accurate modern mapping. There were also wind pumps associated agricultural establishments on the downs. Some of these survive, but many more are marked on maps.

A distinctly 20th century industry is that of aircraft development and production. The important role of Farnborough is noted within the military discussion, but there were important aircraft factories, Supermarine in Southampton and Avro at Hamble.

5.9.5 Coastal

the salt industry, whose origins go back to much earlier times, was an important industry particularly in the Lymington area in the 16th and 17th centuries. The salterns are a distinctive landscape on the New Forest coast.

There was thriving oyster industry in the harbours of the Solent, producing vast quantities of oyster for the urban markets particularly after transport networks allowed rapid transport to large populations such as London. The industry went into decline, in part due to celebrated illness outbreaks caused by deceased water cleanliness.

5.9.6 Transport and communications

Roads have existed since earliest times enabling people to move and trade goods. From the post-medieval period road quality gradually improved, particularly with the Turnpike or Toll roads of the 18th century along strategic routes. They left a heritage of milestones, mile posts, toll houses, walls and banks, and distinctive coaching inns in towns and at staging points. Parliamentary enclosure embedded rural roads within the field patterns, also a distinctive post medieval landscape feature. From the mid 20th Century the number of roads has increased and others have been widened and heavily engineered. A variety of early associated infrastructure includes roadside cafes, AA phone boxes and AA posts, and early garages – some of which had developed from the former smithies and workshops along the roads.

Canals to move bulk goods more cheaply and rapidly developed in the 17th and early 18th centuries. The Titchfield canal was built in 1611, one of the first in the UK. The Itchen Navigation was completed in 1710, the Basingstoke canal in 1794, and other canals included the Southampton to Salisbury and Andover to Redbridge. Canals were short lived as they were overtaken by railways, but their character in the landscape is often still distinctive. Features include cuts, locks, wharfs, bridges, aqueducts, tunnels and buildings.
As well as shipbuilding, at Southampton the first dock was built between 1838 and 1842 and culminated in the Empress Dock in 1892. The thriving docks influenced the growth and character of coastal settlement in southern Hampshire.

The first railway line to be built in the County was the London to Southampton line which opened in 1840. Others followed over the next 30 years. There were also a range of non passenger railways, for military, agricultural, trade and tourism, including narrow gauge railways. The main lines are associated with major engineering works, both earthworks and bridges and viaducts. The earlier lines would allow only lower gradients and the associated works are often more impressive in scale. Landscape features include major engineering works - earthworks, bridges, tunnels and cuttings. These railway earthworks were built using manual labour with great speed and are amongst the most impressive industrial monuments we can see in the landscape, yet often pass before our gaze without comment.

The railways also enabled the rural economy to develop and expand. Products such as watercress and strawberries could be quickly transported to markets both in the UK and abroad. Some towns prospered and grew in response to the arrival of the railways, whilst others without a nearby line remained rural. Many smaller lines became disused in the 1930s and others closed in the 1960s following the Beeching Closures. Some of these were sold off privately, but others became a public recreation resource.

5.9.7 Military and defence

Cheriton (1644) is on the register of Historic Battlefields from the English Civil War, an important cultural landscape.

Hampshire also has a rich and nationally important military heritage, representing each of the three services, including Portsmouth a strategic naval base, Aldershot, home of the British Army, and Farnborough the cradle of technical military aviation.

The importance of Portsmouth as a naval base is widely documented and reflected in a wide range of scheduled monuments. Portsmouth’s fortifications started to develop from the late 15th Century, and gradually developed to encompass Gosport in the 17th century. The town was a vitally important navy supply and victualling centre. Industrial scale military supply was established from Royal Clarence Yard (1827), and the ordnance yard at Priddy’s Hard is also nationally important. Many of the defences of the Portsmouth area are still visible in the landscape, and include a remarkable range of forts with different styles and technologies, defending the area both from sea and land. Defence archaeology extends all along the Solent coast, from 16th century castles to the defences of the later 20th century wars.

The north east of Hampshire is particularly associated with the army, and also parts of east Hampshire such as Bordon and Woolmer. The heathlands around these areas became important for military army training. Aldershot heath for example, was purchased as a training ground in 1854 and a permanent garrison followed Aldershot Camp was the only complete military town built in the Kingdom since the Roman occupation. There are still several military training areas in north east and east Hampshire today.
Nearby Farnborough meanwhile was the centre of aviation development. There are nationally important industrial archaeological remains at Farnborough, including the wind tunnels, Pystock (associated with the development of the jet engine) and balloon sheds. Part of the legacy is the many airfields still visible in Hampshire from both World War I and World War II. The degree of complexity and survival varies greatly—some are conserved and listed, some abandoned, and some have found alternative uses. Landscape features present today include hangars, runways, iconic control towers, and associated defences such as bombing ranges and decoy sites. These includes a U-boat pen deep in the New Forest.

The First World War left a legacy of coastal defence and camps and training grounds, although much of this was temporary and leaves little trace. There were large camps e.g. at Hazeley Down and Magdalen Hill which covered several miles and had its own rail line, plus many local camps. Local hospitals received wounded soldiers from the front marked by cemeteries near these centres with war service headstones and war memorials.

A notable Second World War archaeological feature is the GHQ (General Headquarters) Line which runs through Hampshire past Aldershot to Sherfield on Loddon. This was part of the many ‘stop’ lines built in 1940, a huge military engineering operation to compartmentalise the country, to contain and delay the anticipated German invasion. The GHQ Line was the longest and most important, designed to protect London. The main elements are pillboxes, and anti tank blocks and ditches. There is also a rich history of the preparation for D Day in the south of Hampshire, leaving hard roads and tracks through woods dating to these period, the bases of huts and air raid shelters, slit trenches and pits, road widenings, and reinforced lay-bys where vehicles were parked up waiting for embarkation, and also construction sites for the Mulberry Harbour that facilitated the invasion (e.g. at Lepe).

5.9.8 Designed Landscapes

Hampshire has many examples of designed landscapes. These distinctive and significant landscape components reflect social and economic trends and make a contribution to landscape character. There are 58 parks and gardens on the 2009 English Heritage register of parks and gardens of special historic interest. Two of these sites, Hackwood Park and Highclere Park are grade I. There are many more and over 900 sites have been recorded of interest on the Hampshire Register of historic parks and gardens.

In the medieval period deer parks were developed for keeping and hunting deer. These were distributed across the county, in some cases related to the royal forests but seventeenth century maps indicate a particular concentration parks in the north east of the county. Many deer parks developed into landscape parks. The dissolution of the monasteries between 1536 and 1540 led to the release of land from which large estates developed, and the reuse of monastic buildings and grounds for grand houses and designed gardens. In the late 17th century with the restoration of Charles II the formal French style was widely adopted. Many of the tree avenues in Hampshire may date from this period and the early part of the 18th Century. Charles II also chose Winchester for the site of a new palace. This may have been influential in the design and establishment of nearby country houses and parks.
The formal French style gave way to the more natural English Landscape Style and one leading proponent was Capability Brown who was involved in the design of a number of parks and may have influenced others; his plans survive for Cadland House and Highclere park. A feature of some Hampshire landscape parks is the creation of lakes or the widening of rivers to look like a lake; others were located or designed to take advantage of fine views, in particular of the Solent and the Isle of Wight. One of the leading successors to Brown was Humphry Repton who followed the principles of Brown but modified them to suit some of the picturesque ideas popular at the end of the eighteenth century and advocated by William Gilpin (Section 9). Repton is known to have been involved with Stratton park and Herriard Park. The picturesque style permeated English Society and culture. Jane Ausen refers in her novels to improvements to parkland landscapes and to Repton himself. Her brother Edward Knight like other landowners of the period carried out landscape improvements in a Picturesque style at Chawton House. The picturesque style often extended to the whole estate and Rotherfield Park is an example where picturesque improvements to the park extended to modifications to the village. Sporting use also was an important element of many of Hampshire's nineteenth century landscapes. A small number of parks and gardens are associated with rectories and vicarages and in Hampshire there were several notable vicars including William Gilpin, Gilbert White (Chapter x), and Charles Kingsley of Eversley.

The nineteenth century saw the developing interest in horticulture and the growing of exotics and the extensive development of walled gardens, pineapple and melon grounds, vine and peach houses and conservatories such as those developed by Sir George Staunton at Leigh Park. The introduction of new species lead to the establishment of arboretums and tree collections like the Rhinefield Ornamental Drive and use of conifers in the landscape for example the Wellingtonia Avenue at Elvetham Hall.

Large houses and parks are also associated with the military in the north east of Hampshire and the Portsmouth area, established by retiring military officers. Similarly ex-colonials returning to England introduced some distinctive features. In the nineteenth century with the construction of the railways country houses or villas in landscaped grounds were sometimes created as weekend and holiday retreats. Some large houses and their grounds have been adapted to institutional use such as hospitals and schools, although others were purpose built such as Haslar Hospital.

Probably due to the absence of large manufacturing there are relatively few significant public parks. There are however, cemeteries which are notable for their design, selection and layout of planting and other distinctive features including Aldershot Military Cemetery and Magdalen Hill Cemetery, Winchester which are both on the English Heritage Register.

The Arts and Crafts Style championed the unity of the arts in which the house, the furnishing of the interior and the garden were considered as a whole and the garden was often seen as an extension of the house. There are many examples of this style in the area including gardens created by the partnership of Sir Edwin Lutyens and Gertrude Jekyll for example at Marsh Court, and there is also a cluster of houses and gardens designed by Ingo Triggs in East Hampshire.

Sources of Information
6. LAND USE AND MANAGEMENT

6.1 Land use

Figure 6.1 shows that Hampshire is still predominantly a rural county, with 85% of wards classified as rural and 15% urban. DCLG (2005) calculated that 89% of the county’s land...
surface is non built (greenspace or water), 5.5% was given to domestic gardens, and 5.5% comprised buildings or roads. Dense settlement is concentrated in particular areas however, in South Hampshire, north east Hampshire, Winchester and Basingstoke. Non-built land was reduced to just 49% in Gosport, 54% in Rushmoor, 65% in Fareham, 64% in Eastleigh and 66% in Havant. Domestic gardens form particularly important resources in these densely populated areas, covering 17-19% of land.

Figure 6.2 shows the main types of habitat within Hampshire: arable, grassland and woodland are three prominent land uses, with 15% classified as urban (which includes built land, gardens, green corridors and parks).

6.2 Land Management

Farming and forestry are two key land management sectors with direct impacts on the landscape. Some 75% of Hampshire’s non-built land is recorded as farm land or woodland (60% is farmed and there is a 20% woodland cover, with a 5% overlap of farmed land which is also wooded).

6.2.1 Farming

The agricultural land classification identifies the best land for farming. Grades 1-3 is most productive and best able to grow crops. Hampshire’s farmland is mostly grade 3. There are small patches of very good Grade 1 and 2 land along the coastline and along the Wey Valley northeast of Alton, and smaller more fragmented patches elsewhere. Large tracts of the New Forest are classified as Grade 5.

**Figure 6.3 Agricultural land classification**

SOURCE: DEFRA/NATURAL ENGLAND.
The farmed land use in 2007 is shown in Figure 6.4. Half of farmed land was in arable production, and 35% under pasture. These agricultural land-uses change considerably across the different landscapes of Hampshire, however (Figure 6.5). The downland landscapes are dominated by arable farming, whereas in the heath-associated landscapes where farmland occurs it is dominated by grasslands for livestock or dairy farming.

On arable land the predominant crop types grown in 2007 were:

- wheat (38% of arable land cover)
- spring barley (17%)
- oil seed rape (17%)
- oats (6%)
- winter barley (5%)
- maize (5%)
- bare fallow (4%)
- Other – potatoes, peas and beans, other cereals, linseed etc (8%)

There are differences in the type and area of crops grown within the different landscape types. Wheat, spring barley, and oil seed rape together comprise 70-77% of the crops grown in the downlands and major river valleys, whilst maize, horticulture, and peas and beans contribute much more to the arable crop mix in the lowlands. Broad land use categories have not changed dramatically across Hampshire since the first Hampshire Landscape Assessment in 1993. This relative stability in the structure of the farmed landscape is however, set against dramatic changes within the farming industry. The
livestock and dairy industries have undergone particularly dramatic changes since 1990:

- 50% decline in the number of dairy farms
- 45% decline in the number of farms specialising in general cropping
- 40% decline in the number of horticultural farms
- 32% decrease in the number of mixed farms
- 17% increase in the number of cereal farms
- 25% increase in the number of grazing livestock farms
- 40% increase in the number of pig and poultry farms
- 230% increase in the number of farms classified as ‘other’ - i.e. holdings not in mainstream agriculture, such as horse-related holdings, small-holdings, and specialist holdings.

These trends reveal underlying problems within some sectors of the farming industry, particularly the declines in dairy farms, general cropping farms, and horticultural farms. Issues include:

- Farm incomes have been in a depression since 1996
- In 2005, cattle and sheep farms, cereal farms and mixed farms on average all made net losses despite income from on-farm diversification, contracting, rental income, agri-environment schemes and the single farm payment.
- High grain prices has lead to higher food stock costs for livestock farmers
In dairy farming, smaller or marginal holdings have gone out of business, leaving a smaller number of high efficiency units.

Highly variable global cereal prices make financial forecasting difficult, on top of farmer trying to forecast and protect against losses due to poor weather at harvest.

Despite recent rises in food costs for consumers, the farmers share of the retail price in 2005 was just 36%. The economic power of major food retailers is very high compared to those who grow our food.

In response to these issues, some farms are simply going out of business, others are able to invest in new equipment and technology to become more efficient, some are switching to more specialist farming, and some are dependent on diversification businesses or second incomes to balance the business.

The reform of the Common Agricultural Policy was introduced in 2005. This radically changed the way that farmers receive funding support, and decoupled payments from production for the first time since the 1960s. It is no longer necessary for farmers to grow wheat or keep livestock to receive payment; instead a single payment is awarded per holding, and there are also separate agri-environment grants. Some farmers have reduced the number of livestock per holding as they are no longer paid by head of livestock, and some arable farmers have chosen to diversify the type of crops they grow. These change also explains the 230% rise in the number of ‘other’ farms, as the link to landholding not production has allowed many smaller units to apply for payments.

Figure 6.6 shows the distribution of agri-environment schemes across Hampshire, which in total amount to around 34% of the land cover. The majority of agreements are for the ‘broad and shallow’ non competitive entry level scheme, but there are a range of

Figure 6.6: Environmental Stewardship Agreements in Hampshire by type

SOURCE: Natural England 2009
landholdings within the higher level schemes, particularly in the New Forest, Test Valley and South Downs. One of the largest Countryside Stewardship Schemes (now coming to and end and replaced by the Environmental Stewardship) in Hampshire is for the New Forest, which will come to and end in 2013.

### 6.2.2. Forestry

Hampshire is a well-wooded county (Figure 6.7). Estimates indicate that woodland occupies 20% of the land cover\(^3\) (small woodlands are not easy to record accurately). The south east region has a 14% woodland cover overall, and England just 8%. Facts and figures include:

- c. 38% of Hampshire’s woodland resource is located in the New Forest
- woodlands are often distributed in large blocks within the county; c. 70% of the county’s woodlands are over 50ha in size
- the broad woodland type is 57% broadleaved, 17% coniferous, 15% mixed, and 10% of large woodland blocks are managed as open space
- The principal broadleaved species within Hampshire are oak, beech, ash and birch.
- Half of all woodlands in Hampshire are under public ownership, a third being owned by the Forestry Commission, a considerable public resource.

Traditional coppice woodlands now only account for 2.4% of the resource, although in 1947 40% of woodlands in the south east were managed by coppicing – and this was a big decline from levels of coppicing undertaken before the first world war.

![Figure 6.7: woodland in Hampshire by woodland type](source: Forestry Commission (2002) Inventory of Woodlands and Trees)
Seeing the Wood for the Trees (2004)\(^4\) indicates that woodlands contribute well over £1 billion to the economy of South East England though both ‘free’ public benefits and through timber and other woodland products:

- It is estimated that 320 million leisure days are made to the regions countryside, woodlands and forests
- Public benefits can include improvement of landscape character - particularly in derelict or poor quality landscapes, nature conservation, quiet recreation spaces for amenity uses such as walking and cycling or just peace and quiet, outdoor spaces for play and education, carbon sequestration, shading in summer and slowing down surface water run off (reducing flash-flooding).
- Up to half of the woodlands in Hampshire are in public or charitable ownership, open to the public, and many more rights of way pass through private woodlands
- There are around 2360 full time or full time equivalent jobs in forestry and primary wood processing in the South East, and a further 41,000 jobs in supporting industries

Issues identified in the forestry and woodland management sector include

- There has been a sharp decline in the number of sawmills across the UK, with a 50% decline since 1998
- There was a 35% loss of jobs in the forestry industry between 1987-1998, and
- Whilst the region’s woodlands are growing approximately one million tonnes of wood per annum, less than a third of this wood is harvested and removed from the woodlands
- The UK meanwhile is the 4th largest net importer of forest products in the world – we only produce one third of the wood we consume

Sources of information


\(^3\) Forestry Statistics a) Forestry Commission (2002) National Inventory of Woodlands and Trees - South East Region. http://www.forestry.gov.uk/pdf/nisoutheast.pdf (provides figure of 17.7%) and b) Hampshire Biodiversity Information Centre (2007) Phase 1 Habitat and Land Use GIS dataset (provides the higher figure of 19.7%)

7. COASTAL HAMPSHIRE

The international importance of the Solent coastline for biodiversity, increasing human pressures and climate change, make it important to assess coastal landscapes and seascapes in an integrated way, to contribute to the body of evidence and help with future planning and decision making processes. In the past landscape character assessments have tended to stop at the coastline. This assessment includes the marine zone, recognising that landscapes, seascapes, biodiversity, human uses and experiences do not stop at the shoreline – which changes anyway with the tides and over time.

This character assessment divides the coastline into three different broad landscape or 'seascape' character areas – i) coastal landscapes including intertidal habitats above mean high water, ii) the marine zone which includes intertidal habitats below mean high water, iii) the three harbours. Several coastal landscape types are described, including the sea, estuaries, harbour channels, intertidal estuaries and harbours, open coastal shore, and enclosed or open coastal plain.

7.1 Coastal features

The Hampshire coastline is a mainly flat, under 5m in elevation, and easily erodible, with an underlying geology of soft clays and other unconsolidated sedimentary materials. It is incised by many coastal inlets, estuaries and harbours, the biggest of which is Southampton Water, a deep drowned tributary valley effectively separating the New Forest and Southampton coastlines. In the east of the county, the Portsmouth, Langstone and Chichester harbours are intertidal marine basins interconnected by channels and drained at low water by networks of channels and creeks.

In addition a range of other coastal features include raised beaches, ice sheets, sand and shingle deposits (forming beaches, spits, sand dunes, etc). Christchurch bay meanwhile is backed by low eroding cliffs e.g. seen at Barton on Sea. Saline lagoons have formed behind some of the shingle ‘barriers’ e.g. at Keyhaven, where they are protected from the open sea. The low-lying intertidal harbours and harbour channels (inlets) of the Hampshire coastline are characterised by muddy sediments and saltmarsh, formed from the re-distribution of soft and easily eroded sediments. Many of these features are protected by European law for their nature conservation value.

Around 74% of the Solent coastline is however, lined with man-made sea defences to protect against flooding or erosion so there are very few ‘natural’ landscapes and seascapes present in Hampshire.

7.2 Coastal processes

The natural coastal processes which defences are designed to protect against include wind and wave action, tidal currents, tidal water levels and freshwater flows. These processes result in erosion, accretion (accumulation) and tidal flooding.
The predominant wind is from the southwest, and so winds can travel for thousands of miles before hitting Christchurch bay and the south western Isle of Wight coastlines, generating powerful waves. The Solent coastline is more sheltered from the predominant south-westerly storms.

The tidal regime of the Solent is very complex. The tidal range is the vertical difference between high and low water level and this increases west-east along the coastline. On a rising tide, water flows into either end of the Solent at different times. The current is initially east flowing from Hurst Spit towards Southampton Water, but currents reverse as the eastern Solent fills. The meeting of the two currents causes a prolonged or ‘double’ high water, particularly pronounced in the middle the Solent at Southampton Water (part of the popularity of the port). The ebb currents are fast and strong, particularly around estuary and harbour mouths which causes erosion in some places.

Sediment erosion, transport, and accretion (accumulation) are important natural processes acting on the coastline, forming or eroding features such as beaches, sand dunes, sand banks, shingle spits, mudflats and cliffs. The soft, unstable, and unsheltered cliffs of Christchurch Bay are a easily eroded, although low level wave action and are sufficient to cause cliff erosion between the Rivers Hamble and Meon, and beach erosion at Lee on Solent. The New Forest north Solent coastline is also prone to erosion, particularly from Keyhaven to Calshot Spit. Larger material is deposited in areas of high wave energy to form beaches and shingle features on Hayling Island and Portsea Island, whilst finer sediments accumulate in low energy environments such as the inner harbours and western Solent. Sediment sinks also occur where two sediment ‘pathways’ meet, causing deposition, such as Brambles sand bank at the mouth of Southampton Water.

The tidal regime and strong currents mean that the Solent is effectively ‘well-flushed’. The main channel is little affected by the freshwater bodies flowing into it, and few rivers flow into the harbours, so it is only in the estuary heads that salinity falls well below that of normal sea water.

Sea defences often sit behind mud-flats and salt marshes, creating ‘coastal squeeze’ whereby natural habitats are reducing in size, ‘squeezed’ between developed sea defences and rising seas. These habitats have reduced significantly in size since the 1950s when the defences were built, and in turn provide less protection against erosion and flooding. As many of the habitats are ‘Natura 2000’ sites, protected by European designation and legislation, this conflict has considerable implications for planning authorities.

7.3 Marine and coastal use

Figure 7.1 shows some of the pressures on the coastline. Many areas are part of the Natura 2000 network, internationally important for biodiversity (Section 8). The Solent is also one of most heavily used stretches of sea in the UK, and South Hampshire is heavily urbanised, home to nearly a million people. Different uses and activities include:

- Biodiversity, including a range of internationally valuable habitats
- Leisure and tourism activities, services and infrastructure e.g. walking, sunbathing, sailing, clubs, marinas, chandlery/boat repairs
- Transport and shipping, ferries, ports and infrastructure, cruise liners
- Heavy industry, e.g. power stations, oil refineries, manufacturing
- Minerals extraction and dredging of sands and gravels for building
- Light marine industries – e.g. leisure boat manufacture
- Fishing - a mixed sea fishery area with several fishing ports
- Farming – the main concentrations of grade 1 lands are on the coast
- Housing – waterfront properties very popular and sell at a premium
- Defence, including old historical defences and modern naval forces
- Coastal defences – discussed above

Many of the uses and activities are competing rather than compatible, and if left unchecked could damage or restrict other uses. One example is the potential impacts of an increasing population on the species and habitats of the Natura 2000 sites. Wildfowl and wading bird species can be disturbed by human activity and by dogs, impacting on feeding or nesting sites.

7.4 Coastal Climate change

Sea levels are rising along the south coast due to a combination of climate change, and also a natural process known as Glacial Isostatic Adjustment (GIA). The earth’s crust is still rebalancing from the effects of heavy ice sheets pressing down on much of the British Isles during the last ice age. Sea levels in the southeast are rising by around 1.5mm per year (15cm per century) because of this process. The 2009 UK Climate Projections taking into account GIA, project a 21–68 cm rise by 2100 for the southeast under a medium emissions scenario, and a ‘very worst case scenario’ range of 93-190cm by 2100 (thought to be
possible but highly unlikely). In low-lying Hampshire however (Figure 7.2), sea level rise of even a few cm has an impact - increased erosion, coastal squeeze, and increased costs of coastal defences. Mean sea levels measured at Portsmouth show there has already been a rise of 17.1 cm between 1962-2004.

![Figure 7.2: Hampshire coastline showing 5m and 10m contours](image)

Other predicted climate change effects include:

- Wind speed and wave heights likely to increase slightly in the west and decrease slightly in the east of Hampshire
- Wave direction could change, changing the direction of long shore drift.
- Accelerated erosion of coastal features including salt marshes, soft cliffs, beaches and mudflats, in combination with coastal squeeze
- Coastal defence more difficult and more expensive to maintain due to rising sea levels, reduction of natural defences via coastal squeeze, increased wave force on structures
- Changing patterns of longshore drift resulting in altered patterns of erosion and deposition
- Increased potential for flash flooding of low lying urban areas caused by intense rainfall events, and increased potential for combined tidal and fluvial flooding on tidal rivers
- Changes to coastal habitats and species due to changes in climate and coastal landform such as loss of freshwater or brackish habitats due to increased saline flooding or coastal retreat, loss of habitats due to erosion, coastal squeeze, changes in species distribution and habitats due to climatic change, and habitat impacts resulting from human adaptation and mitigation such as changing land-uses or recreational patterns.

Sources of information

UK Climate Projections 2009  
http://ukclimateprojections.defra.gov.uk/content/view/825/518/  


http://www.eclife.naturalengland.org.uk/champs/pilots.asp  

SCOPAC (n.d). Preparing for the impacts of Climate Change: a strategy for long term planning and management of the shoreline in the context of strategic climate change predictions. Halcrow on behalf of SCOPAC.  

8. BIODIVERSITY

8.1 Overview

Hampshire has the greatest species diversity of any county in Britain. This is partly due to climatic location in the UK between west and east. It currently lies at the northern most range for some species, and the southern most range for others. The county also has diverse geology, topography and landscapes including 145km of coastline, alkaline (chalk) and acidic river systems, and terrestrial landscapes rising from sea level to over 250m, with a range of calcareous, acidic and neutral substrates. The New Forest contains the largest area of ancient semi-natural woodland in the UK and the largest area of heathland, and is also a contributor to the county’s biodiversity.

The rich diversity of habitats and species across the county is the result of the interaction of natural and cultural factors. Most of the habitats in Hampshire are managed by human intervention, such as heathlands, water meadows, and coppiced woodlands. Many saline lagoons were once created for saltworks or oyster beds. The range of habitats are distinct, well represented and contribute to the current character of the landscapes. Future management of the landscapes of Hampshire provides further opportunity to enhance the diversity of habitats and maintain or enhance the quality of landscapes. Future landscape management will also need to account for climate change which could modify habitats and landscapes in new ways.

8.2 Designations

The biodiversity of Hampshire is reflected in the number of nature conservation designations (Figure 8.1). There are several different concentrations of habitats which are internationally important for their biodiversity, including the Thames Basin Heaths, Wealden Heaths, the New Forest, East Hampshire hanger woodlands, Itchen and Avon chalk streams, and long stretches of intertidal habitats such as mudflats and grazing marshes along the coastline. These designations include Special Protection Areas which are particularly important for birds (and usually also RAMSAR sites) and Special Areas of Conservation which cover particularly important habitats. Together these SPA and SAC designations are known as the Natura 2000 network, and are protected by European legislation. Nationally important sites, protected by UK legislation, include National Nature Reserves and Sites of Special Scientific Interest. SSSIs cover 14.5% of the county, about twice the national average. A further 8.7% of Hampshire is covered by county designations, Sites of Importance for Nature Conservation. Ancient semi-natural woodlands are a non statutory designation, defined as woodland which has existed at least since 1700. Some were replanted in the 20th Century with coniferous species, but may still have important biodiversity and archeology.
8.3 Habitats found in Hampshire

8.3.1 Priority habitats

Figure 8.2a shows the distribution of broad habitat types in Hampshire. The Hampshire Biodiversity Partnership has identified a range of different habitats under the Biodiversity Action Plan process which are a priority in Hampshire.

Biodiversity Action Plan Habitats in Hampshire

- Ancient semi-natural woodlands
- Wood pasture and parkland
- Hedgerows
- Arable land
- Neutral grassland
- Lowland calcareous grassland
- Lowland wet grassland
- Heathland, acid grassland, bog
- Standing open water
- Chalk streams
- Rivers and streams
- Canals
- Coast
- Wetland
The descriptions in Sections 8.3.2 – 8.3.8. focus on the broad habitat categories identified in Figure 8.2 because these most affect landscape character, but take BAP habitats into account.

Figure 8.2 a) broad (aggregated) Biodiversity Action Plan habitats in Hampshire and b) Biodiversity Opportunity Areas in Hampshire

SOURCE: HAMPSHIRE BIODIVERSITY INFORMATION CENTRE
account. Biodiversity Opportunity Areas have also been developed in Hampshire by the South East Biodiversity Partnership (Figure 8.2b). These are areas where there are particular concentrations of priority habitats, and therefore increased opportunities to restore and reconnect these habitats. They do not mean that the management of other landscapes or habitats outside the lines are less important.

8.3.1. Arable

Arable farmland is the largest single type of land use in Hampshire, particularly dominating land use on the Downs and in the major river valleys and forming around 40% of the farmed lowland mosaic. Agricultural intensification is widely associated with a decline and loss of habitats and species in the county, although Environmental Stewardship and its predecessors (Figure 6.6) have encouraged diversification. Some ‘arable hotspot’ areas support a diverse and rich arable weed flora, often associated with field margins: These areas can support species such as pheasant’s-eye and red hemp-nettle. Arable land also provides an important habitat for insects, many of which spend their lifecycle in cereal fields and provide important food sources to ground nesting birds, including the grey partridge and other farmland birds.

8.3.2 Grasslands

Nearly 20% of Hampshire is grassland, but more than three quarters of this is agriculturally improved or re-seeded with lower biodiversity1. The remaining unimproved grasslands are an important and valuable habitat, but tend to be fragmented, often existing as small isolated habitat patches within the farmed landscape. Hampshire supports calcareous (chalk) grasslands, acid grasslands, neutral species-rich hay meadows, and fen meadows.

Chalk grasslands are associated with the downland landscapes and represent one of the richest habitats in the UK in terms of plant species diversity and are also important for invertebrates. Many butterfly species including the adonis blue and chalk hill blue depend on chalk grassland habitats. At the foot of the Hampshire Downs, calcareous fen grassland is associated with calcareous springs and tend to support a rich flora, including marsh helleborine and fragrant orchid.

Unimproved neutral and acid grasslands are diverse in character, and exist in a variety of landscapes, from the coastal plain through to the New Forest, as patches in river valleys and on the slopes of the Greensand Hills. Neutral unimproved hay meadows are particularly important due to a high proportion of herbaceous plants they support. Acid grasslands are usually associated with lowland heath landscapes. Throughout the New Forest they may have derived from heavily grazed forest glades. On the Wealden Greensands, these grasslands largely exist as commons, parkland, patches within heathland, grazed pony paddocks and on road verges.

8.3.3 Woodlands

Hampshire is one of the most wooded counties in the country, with 20% woodland cover. Woodland type is very diverse, again reflecting soils and geology: oak woodlands are typical of acidic soils, ash - hazel of more neutral soils, and wych elm and ash - field maple woodlands of thinner, chalky soils.
The county supports 5%¹ of the UK’s ancient semi-natural woodland resource. In Hampshire woodland is often associated with the many Saxon and Norman hunting forests which may indeed be much older (Section 5). Examples include the Wealden Edge Hangers, Forest of Bere, Forest of Eversley and New Forest woodlands. Ancient woodlands can be important culturally and archaeologically as well as for biodiversity.

As discussed in Section 5, woodlands may have been actively managed since the Iron age or before. Traditional techniques for managing woodlands in Hampshire have created some distinctive habitats, including wood pasture and coppiced woods. The New Forest is a good example of pasture woodlands, which were once extensively grazed and have been subject to continuous traditional management. The result of this continuity is one of the finest remnants of ancient deciduous forest in the lowlands of western Europe. Relicts of pasture woodlands are also associated with the Royal Forest of Bere, in south east Hampshire and supports typical examples of veteran trees which were once managed as pollards. They now support important lower plant communities, particularly lichens and bryophytes. Coppice management is evident in the woodlands of the Hampshire lowlands which support oak with a hazel understorey and varied ground flora. The Hampshire Downs support woodlands historically managed to produce hazel sheep hurdling.

8.3.4 Urban habitats

Some 15% of Hampshire is classified as urban (Section 6.1). There can be a wide range of habitats within urban areas for example: water bodies, rivers and streams, amenity or semi-natural green spaces, road verges and railway lines. Domestic gardens account for 5.5% of Hampshire’s landcover in total, but 27% of the urban area, in some places inter-linking to the backs of rows of houses to form larger green networks. Buildings can also be important for species such as bats. The biodiversity value of these different habitats however, depends on several factors including connectivity with other habitats, management, structural diversity, number of food sources and disturbance. In domestic gardens wildlife ponds, nest boxes, compost heaps, flowers with nectar and shrubs with berries can all help to make individual gardens more wildlife friendly.

8.3.5 Heathlands and valley mires

Hampshire is significant for the amount of heathland habitat supported: about 13% of heathland remaining in Europe and 30% of the U.K. total. It occurs where underlying soils are acidic, in the New Forest, north east Hampshire (the Thames Basin Heaths), and east Hampshire (Wealden heaths). Heathland is predominantly an open, man-made landscape historically managed for grazing, often part of the mosaic of habitats managed within the Royal Forests. Like grasslands, heathlands also usually need grazing to regenerate and prevent more competitive plants from becoming dominant. There are different types - dry, humid and wet heath, plus other habitats within heathlands such as mires, bare ground, open water, acid grassland, scrub and wooded areas.

Dry heath is associated with drier soils and supports a range of species including calluna, bell heather, dwarf gorse, bilberry, common tormentil, heath grass, byrophytes and lichen, and in some places purple moor grass. There is a split in species on dry heath across the county; in the north east, wavy hair grass is a dominant species, whereas in the New Forest bristle leaved bent is more common. Unusually, on the calcareous soils of the South Downs,
there are also small areas of heathland that have evolved on patches of acidic soil which directly overlie the chalk bedrock. Here dwarf gorse and heather intermix with chalk grassland species. Sites include Belle Tout, Levin Down and Old Winchester Hill.

Humid heath exists on soils where drainage is impeded meaning that, intermittently through the year, the water table is relatively high, creating conditions that vary between wet and dry heath. Heather and cross leaved heath dominate in humid heaths, with purple moor grass and a variety of associated species. Humid heath is found in the New Forest, where there is a high water table and where waterlogged soils develop, such as at Baddersley Common.

Wet heath occurs where there is impeded drainage, a high water table, or within river valleys. The flora changes with the permanence of soil water-logging but can include heather and cross-leaved heath, purple moor grass, heath grass, common tormentil, heath rush, cotton grass, sphagnum mosses and rare plants such as sundews, marsh gentian, and club mosses.

The New Forest supports important fen habitats, including valley mires and bogs. A larger proportion of this habitat survives in the New Forest than exists in the remainder of Britain and western Europe together. Valley mires are formed along river valley floors, or valleys where seepage springs or impeded drainage also result in the development of peats. As these valleys can have a range of water and soil gradients from the floor to the valley margins and from river mouth to source, they can create a great diversity of plant species. In the southern New Forest, there are a few strongly base rich (neutral or alkaline) mires supporting specialist fen vegetation. More commonly, acid mire vegetation occurs, dominated by bog mosses, sedges, rushes and insectivorous plants such as the sundews and butterworts.

8.3.6 coastal and marine habitats

The coastal landscapes and seascapes of Hampshire support a range of habitats from terrestrial to marine with a range of inter-tidal habitats in between. Marine habitats include estuaries, sheltered marine harbours and inlets, saline lagoons, open seas and fully submerged sea-bed sediments. Intertidal habitats include salt marshes, mudflats, and coastal grazing marshes. Shingle, sand dunes and soft cliffs may be periodically inundated and/or influenced by salt spray and coastal processes. The mosaic of coastal habitats is internationally valued for the wintering waterfowl and wading bird populations it supports.

Hampshire has approximately 2% of the UK mudflat resource. Mudflats develop in sheltered parts of the coastline with reduced tidal flow. Mudflats often support eelgrass species which stabilise the flats, enabling other marine species to colonise. Eelgrass is nationally very rare. The Solent is one of the most important areas for Eelgrass in the UK, and Langstone Harbour the most important site in Hampshire. Mudflats also support communities of burrowing fauna including molluscs and worms as well as providing good nursery areas and feeding grounds for fish species. Consequently, the mudflats provide food sources for wading birds and waterfowl, e.g. brent geese and wigeon.

Shingle is a widespread habitat of the coastal landscapes and varies in character from exposed, unstable and un-vegetated to shingle largely stabilised by vegetation. Vegetated
shingle is a rare and important habitat. Flora is dependent on the age of the shingle. It is less vegetated closer to the sea where shingle is youngest. If undisturbed by human activity, shingle can provide habitat for breeding seabirds, including the little tern, common tern and sandwich tern and is also important to a number of nationally rare invertebrates.

Saline lagoons are areas of water that are completely or partially separated from the sea by spits or artificial sea walls meaning that the water within them varies from brackish to saline, although they are usually shallow. There are 33 along the Hampshire coast, the biggest concentration of saline lagoons in the UK. The lagoons are generally human creations but provide habitat to a number of specialist species including the lagoon shrimp, the starlet sea anemone and the foxtail stonewort, which can tolerate fluctuating salinity.

Saltmarshes are a transition habitat from mudflats which are inundated by the sea, to upper saltmarsh, which is only infrequently inundated. It naturally grades into other habitats such as grazing marsh, freshwater marsh, shingle, heath and scrub. Saltmarshes exist widely throughout the coastal landscapes of Hampshire. The transitional nature of the marshes make them an important habitat for invertebrates. Cord grass dominates the saltmarshes; Hampshire is the site of the original introduction of cord grass to the UK and therefore the marshes are particularly important. The marshes support breeding tern and colonies of black headed gulls.

Coastal grazing marshes are low-lying grasslands drained by ditches; it is generally saltmarsh that has been enclosed and managed for grazing. The grassland is unimproved, creating a specialised mixture of species including sea clover and divided sedge. The drainage ditches support species such as water-beetle, almost confined to this habitat type. The grasslands support a range of breeding birds and in winter, together with saltmarshes, support an important over-winter habitat for waders, seabirds and waterfowl. The Solent is particularly noted as an overwintering ground for brent geese.

Maritime cliffs exist along the western New Forest coastline. They are soft and easily eroded, susceptible to slippages and slumps. They provide habitat for nationally rare bee and wasp species and are also important for sediment supply to other coastal features (e.g. beaches) through cliff erosion.

**8.3.7 Rivers**

Several types of river drain Hampshire’s two basins (section 4.2), but the county is particularly famed for it’s calcareous (chalk) rivers. The Avon, Itchen and Test and all nationally designated for nature conservation, whilst the Avon and Itchen are also internationally designated. The water originates from aquifers within the chalk downs, which slowly releases water of a constant temperature and chemical quality which supports a wide variety of aquatic species. This includes floating water-crowfoot, an internationally threatened habitat, well established in Hampshire. The waters also support a range of invertebrate species and important fish communities including the Atlantic salmon, brown trout, brook lamprey, sea lamprey, and bullhead; mammals including otters are also present. The lower reaches of these rivers flow through the clays, sands and gravels of the lowlands, changing their water chemistry and particulate content. In northern Hampshire rivers such as the Loddon originate in the chalks, but largely flow across the lowlands, so are less species rich than their southern counterparts. The New Forest rivers have an acidic
character and support richer dragonfly fauna than chalk rivers. The lower reaches of these rivers are flanked by riverine woodland and reed beds before becoming transitional in nature due to estuarine influences.

Historically the river floodplains were modified to create water/flood meadows, essential to supply feed for the sheep flocks tended locally. Many meadows are now relict but still represent important, unimproved, marshy and wet grassland habitats. These habitats, along with grazing marshes, support a range of breeding wading birds and waterfowl. Drainage channels, created to control the flooding of the meadows, often support a wide variety of invertebrate species which can only colonise here because of the drainage channels which provide important habitat opportunities.

Sources of Information

Countryside (2009) Biodiversity Report for Hampshire Landscape Character Assessment Review

9 LANDSCAPE AND SOCIETY

9.1 Landscape and wellbeing

Landscape is not just about physical attributes and biological processes, but also about people. People modify landscapes through development and management but also experience landscapes. Landscapes do not just occur in rural areas or national parks but everywhere that we live, work and visit including everyday spaces and urban ‘townscapes’. The quality of our landscapes can impact on quality of life and wellbeing in the following ways:

a) Landscapes provide a number of physical and cultural services to people such as:

- Clean air and water
- Soil and good agricultural capacity to grow food
- Minerals for building
- Space for recreation
- Potential energy through sunshine, water and tidal power and wind
- Space for recreation
- Natural beauty
- A sense of history, place and people
- A place to learn and pass down traditions – e.g. how to grow food
- Inspiration and stimulus e.g. arts, folklore, national symbols
- Society
- Calm and escapism - relaxation, tranquillity; ‘getting away from it all’

The Millenium Ecosystem Assessment argues that if a landscape is degraded, affluent people and societies can buy some of these services from elsewhere (e.g. food and energy). Cultural services however, such as inspiration, sense of place, calm and tranquillity, are not so easy for people to buy or access if their local landscapes are degraded.

b) A review of evidence on health and greenspace suggests that whilst socio-economic factors are the principal cause of inequalities in life expectancy, the provision of green space is an important contributory factor:

- Seven in ten people do not take enough exercise to benefit their health. Engagement in physical activity reduces the risk of up to 20 chronic diseases and disorders including obesity, heart disease, Type 2 diabetes and certain cancers.
- One in four people each year visit a doctor because of a mental health problem. Being more active and having more contact with the outdoors reduces stress and can prevent and reduce depression and anxiety.

1 ‘Our Natural Heath Service’ (Natural England, 2009)
Across England, people living closer to green space had lower death rates and less heart disease.

Amongst lower income groups, 1,300 extra deaths occurred each year in areas where the provision of green space was poor.

Within a specific study (in Bristol), people who lived furthest from public parks were 27 per cent more likely to be overweight or obese compared to people who lived closest to parks.

9.2 Socio-economic profile of Hampshire

Hampshire’s population is generally considered prosperous but there are inequalities within the county, and pockets of social deprivation. These factors are likely to influence how people experience landscape, and are influenced by it.

Whilst 85% of the county is considered to be rural, 77% of the County’s people live within urban landscapes. The average population density of 338 people/km (close to the England average), rises heavily to over 3,000 people/km in Gosport with similarly high densities in Rushmoor, Havant, Fareham and Eastleigh. People living in these densely populated areas may be less likely to have access to cultural services such as tranquil, inspiring, relaxing spaces where you can get away from it all. Having a range of high quality, accessible civic spaces and greenspaces is also likely to be particularly important for recreation and health.

Hampshire is considered a generally affluent county, but there are wide inequalities across the county. In 2001, 20% considered to be very affluent but 40% (two in five households) earned only £15,000 or less. Between districts 43% of people were recorded as being of the more affluent social grades A and B in Hart district, but only 21% and 25% in Gosport and Havant respectively. The incomes of nearly 50% of people in Gosport, Havant and the New Forest was £15,000 or under. The number of high earners (£40,000+) accounted for 20% of households in Hart – but only 5% of households in Gosport and Havant. These differences in wealth influence the kinds of lifestyles that people lead, the kinds of landscape and countryside services they may look for, and the services they are able to access. Those with higher incomes for example, are better able to afford to participate in higher cost sports such as golf or sailing – and therefore to regularly access the peace and quiet of a private golf course, or high quality coastal scenery. Households with young families are likely to want to access greenspaces with play facilities or other attractions for children. Households with lower incomes meanwhile are more likely to be restricted to accessing public places and services close to where they live.

Lower income households are also less likely to be able to choose where they live, or choose a high quality landscape over a low quality landscape. In 2009 the average (median) house in Hampshire cost 8.66 times the average (median) income. House prices in rural areas tends to be higher in Hampshire than urban areas, for example an average price of £265,000 in Hart compared to £195,000 in the Blackwater Valley.

---

Hampshire’s population is generally healthy with life expectancy higher than the national average. There are again inequalities however, with life expectancy highest in Hart - age 80.2 for men, and lowest in Gosport – age 77. Nine of Hampshire’s eleven local authority areas in 2005/6 had higher than national average participation in sporting activities. This still only equates to 1 in 4 16-34 year olds engaged in sporting activities. The Havant district, however, ranked well below the national average. Conversely however, the proportion of people travelling to work by cycling or walking in 2001 was lowest in Hart at just 10% and highest in Gosport at 22.5%

Havant and Gosport are the districts which rank highest in Hampshire in the 2004 Index of Multiple Deprivation (IMD), due to more severe pockets of deprivation at a local level. The IMD combines data on various indicators including income, employment, health and disability, education training and skills, barriers to housing and services, crime and living environment. In terms of living environment deprivation, the Leigh Park wards have the lowest scores in the county for the quality of living environment, indicating very degraded local landscapes and townscapes as well as parts of Gosport and Fareham. Urban Andover and Eastleigh also have low scores in this category.

In rural areas, there is less overall deprivation than in the urban areas, but there are specific challenges. Whereas urban households may face inequality when it comes to accessing some landscape and countryside services, rural households face inequality when it comes to accessing public services such as public transport, health services, schools, banks and shops. For example 1 in 7 rural households have to travel more than 6km to reach a bank, 1 in 8 to reach a supermarket, and 1 in sixteen to reach a GP. There are particularly high numbers of rural households in East Hampshire, Basingstoke and Deane, Test Valley, Winchester and the New Forest. Whilst car ownership in rural areas is high, there is therefore a big challenge to provide transport for younger and older people and others who cannot drive to help them access facilities and services. It is not possible for example, to access hospitals or a major retail centre from large parts of rural Hampshire using public transport. Public transport has decreased in recent years due to decreasing passenger numbers and lack of profitability.

9.3 Access to the countryside

Figure 9.1 shows the range of countryside sites within Hampshire. Due to the scale and scope of the character assessment, the map does not show smaller sites, sports centres or urban parks.

9.3.1 Accessible woodlands

Accessible woodlands form a very important recreational resource in Hampshire, with many Forestry Commission and other publicly owned woodlands providing a range of different facilities. These can include footpaths, car parks, cycle paths, cafes, formal children’s play facilities, horse-riding routes and accessible routes. Woodlands with public access are more frequent in well-wooded landscape types, such as heath-associated landscapes, greensand hangars, and the lowland mosaic, although there are woodlands scattered across the downs.
9.3.2 Long distance footpaths

There are numerous long distance footpaths in Hampshire, including those which follow the coast or rivers and canals, such as the Solent Way, Test Way, the Avon Valley and Blackwater Valley paths and the Basingstoke Canal towpath. Others celebrate Hampshire’s religious connections such as the Pilgrim’s Trail, St Swithun’s way and the Clarendon Way. The South Downs Way is a trail of national reknown, ending in Winchester. These footpaths are often also useful as the focus for shorter circular routes.

9.3.3 Rights of Way

Figure 9.1 shows that even where there are no specific facilities for recreation within the countryside, the rights of way network is extensive across Hampshire and allow people to walk across and experience all of the landscapes. Some landscapes have better networks than others, different types of people may be more confident about accessing and using them than others. The Hampshire Countryside Access Plans (Rights of Way Improvement Plans) evaluate the rights of way networks in different parts of Hampshire and set out potential improvements.

9.3.4 Country parks

Country Parks are sites which were designated under the 1968 Country Parks Act, to help provide recreational facilities for people in and around our main urban areas to enjoy.
Country parks within Hampshire are therefore mainly distributed close to urban areas, such as Royal Victoria Country Park near to Southampton, Yateley Common near to Fleet and Farnborough, and Farley Mount near to Winchester. Natural England records 9 formally designated country parks across Hampshire.

9.3.5 Commons

Common land is land which may be owned privately, but which local people have traditional rights over, such as being allowed to graze livestock or gather firewood\(^3\). It is a relic of historic land use systems, and in today’s landscape can have good rights of way networks and have strong cultural and historical associations for local communities. Some are managed today as countryside sites. Common land has particularly survived in the two heath-associated landscape types in north and east Hampshire and the wealden greensand landscapes, with a string of commons along the upper Test.

9.3.6 Open access land

Under the Countryside and Rights of Way Act 2000 (CROW), the public can walk freely on mapped areas of mountain, moor, heath, downland and registered common land without having to stick to paths. Given the categories used, the distribution of open access land is clearly associated with heath and downland landscape types – the open heath landscapes in the New Forest, remnant patches of chalk grassland within the open downs and chalk scarps, and the heathy parts of woodlands such as Woolmer Forest within the woodland and plantation on heath landscapes.

9.3.7 Coastal access

Under the proposed Marine and Coastal Access bill, Natural England will have a duty to secure a long distance walking trail around the English coast. Natural England’s findings were that in the South East, there is no satisfactory access to 37% of the coast, which rises to two-thirds or more of the Hampshire coastline\(^4\).

9.4 ‘Everyday’ landscapes and protected landscapes

9.4.1 European Landscape Convention

The European Landscape Convention, which the UK government signed up to in 2006 acknowledges that the landscape is an important part of people’s quality of life, a key element of individual and social well-being, a ‘basic component’ of natural and cultural heritage, and also constitutes a resource ‘favourable to economic activity’. This means that all landscapes within Hampshire should be considered important, both urban areas and in the countryside; everyday landscapes and poor quality landscapes as well as those which are of high quality and areas recognised as being of outstanding beauty.

Both UK legislation and the convention however, recognise that some nationally special landscapes need extra measures to be put in place to protect them from development and

other forces for change. Local authorities and other stakeholders have specific legal duties towards these landscapes.

9.4.2 Protected Landscapes

There are two National Parks in Hampshire, and three Areas of Outstanding Natural Beauty (AONBs), in total covering 38% of Hampshire (Figure 9.2). These landscapes were designated under the National Parks and Access to the Countryside Act 1949, and later legislation, with natural beauty defined as flora, fauna, geological and physiographical features, and includes the rich history of human settlement and influence over these landscapes.

![Image of Protected landscapes in and around Hampshire](SOURCE: DEFRA/NATURAL ENGLAND)

<table>
<thead>
<tr>
<th>Protected landscape</th>
<th>Area</th>
<th>Area* in Hampshire</th>
<th>% in Hampshire</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Forest National Park</td>
<td>567</td>
<td>536</td>
<td>95%</td>
</tr>
<tr>
<td>South Downs National Park</td>
<td>1653</td>
<td>559</td>
<td>34%</td>
</tr>
<tr>
<td>North Wessex Downs AONB</td>
<td>1731</td>
<td>270</td>
<td>16%</td>
</tr>
<tr>
<td>Cranborne Chase and West Wiltshire Downs AONB</td>
<td>986</td>
<td>67</td>
<td>7%</td>
</tr>
<tr>
<td>Chichester Harbour AONB</td>
<td>73</td>
<td>13</td>
<td>18%</td>
</tr>
<tr>
<td>Total area of landscapes</td>
<td>3856*</td>
<td>1445</td>
<td>37.5%</td>
</tr>
<tr>
<td>Total area of Hampshire</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*square km - includes low water mark
9.4.3 Tranquil and non tranquil landscapes

Figure 9.3 shows that some landscapes are much more tranquil than others. Our towns and cities are considered to be the least tranquil areas, with areas around major roads also lacking tranquillity. Rural areas are also affected by non tranquil hotspots.

The most tranquil areas generally correspond well to Hampshire’s protected landscapes, highlighting the importance of these designations to protect areas which we can visit to truly “get away from it all”. Landscapes with higher terrain, perhaps because they are less accessible also tend to be more tranquil.
9.5 Cultural associations in the Hampshire Landscape

Hampshire’s gentle countryside has been the inspiration for, and home of numerous artists, musicians and literary figures. For many it represents the vision of quintessentially English life, with its picturesque villages, cricket greens, old churches, downlands and forests, grand homes and gardens, historic towns and cities, and maritime and sailing connections. These associations have left a rich cultural heritage of arts, literature, music, and film. This chapter picks out just some of the many figures particularly associated with landscapes or places, starting in the south of the county and working north.

9.5.1 South Hampshire and the New Forest

The artistic ‘tour’ of Hampshire starts with the Reverend William Gilpin (1724-1804), pioneer of the picturesque. He was vicar of Boldre in the New Forest from 1778 until his death. He had a profound impact on landscape painting and landscape gardening. His _Pictureque Tours_ (descriptions and sketches of ‘picturesque’ places) were immediately popular and influenced the views of a whole generation, teaching people how to analyse and appreciate scenery. They also showed the diversity of British scenery available to the burgeoning middle class leisure tourist. He influenced the Romantic movement, a reaction against the scientific rationalization of the industrial revolution, seeking to explore ‘sensibility’, or emotions that landscapes evoke. Associated landscape terms or ideals include the picturesque, the sublime, and the beautiful. Gilpin’s influence is also evident within Austen’s novels, for example Darcy’s observation of Gilpin’s principles in the landscaping of Pemberley. The sometimes impractical views on how to render landscapes more picturesque, are subject to gentle satire within her novels.

Few scenes in Hampshire were painted by Gilpin on his original tour (the gentle landscapes somewhat lacking in sublimity or ruggedness). Two which were (the ruins of Netley Abbey, and a distant view of Southampton showing the defensive walls in the backdrop\(^5\)) however, feature prominently in 18\(^{th}\) and 19\(^{th}\) Century landscape paintings of Hampshire including Joseph Mallord William (JMW) Turner (1775-1851) _Sluice Gate, Netley Abbey, Hampshire_ c.1794-7, John Constable (1776-1837) _Netley Abbey by Moonlight_ c. 1833 and _Distant View of Southampton_ c.1816, Francis Towne (1739-1816) _Netley Abbey 1809_. Samuel Prout (1783-1852) _Netley Abbey, Watercolour_, William Westall (1781-1850) _Picturesque Views on the Southern Coast of England – Southampton (1814)_ and _Netley Abbey (1816)_ as well as various engravings after the style of Francis Nicholson (1753-1844). The abbey is also thought to be the inspiration for several gothic writers including Horace Walpole (1717-1797), who penned the tortuous ‘The Castle of Otranto’.

The works of JMW Turner include numerous sketches and two watercolours of the county: _Spithead: Two Captured Danish Ships Entering Portsmouth Harbour 1807-9_ and _The Forest of Bere exhibited 1808_. The former particularly fitted the mood of the nation in the run up to the Napoleonic wars, a portrayal of naval ships doing battle with stormy skies around Portsmouth. Other notable landscape paintings from this period include Patrick

A number of landscape painters and other artists as connected with the New Forest. These include the prolific Shayer family. William Shayer Snr, a self-taught artist from Southampton, who exhibited 338 works, mainly of rural New Forest scenes at the British Institution and the Royal Academy between 1820 and 1843. Two of his sons became artists of some reknown, William Joseph and Henry Thring. Frederick Golden Short (1863 - 1936) was born in Lyndhurst, and also exhibited his New Forest landscapes at the Royal Academy and with the Royal Society of British Artists. He was a familiar figure across the Forest, cycling with his paint box and easel strapped over his shoulder. George Heywood Maunoir Sumner (1853 - 1940) meanwhile, connected to Alresford and Gorley in the New Forest, was part of the ‘Arts and Crafts’ movement, a follower of William Morris. His work spanned many mediums, and include etchings of the River Itchen in 1881, a series of illustrations for the 'Artist's Edition' of John Wise's New Forest in 1882, and The Chace 1908, a design for a tapestry. He is also a key figure in the archaeological world, later turning his attention from art to local earthworks and pottery kilns.

The naval and defence importance of the Solent is reflected in the work of several ‘war artists’. These include William Lionel Wyllie (1851 – 1931), and Alma Burton Cull (1880-1931), both of whom painted maritime and naval WWI scenes from the Solent. The official war artist to the Admiralty in WWII, Richard Ernst Eurich (1903–92) also painted Solent landscapes, harbour views and industrial marine scenes.

Turning to writers, the rural political commentator William Cobbett (1763-1835) is an important figure nationally, who helped to highlight rural poverty - one of the negative effects of the Industrial Revolution and transformation of traditional rural communities as well as urban areas. At one time he lived in Botley and also owned several Hampshire farms. His commentary pamphlet Rural Rides draws on his experience as a farmer and as a social reformer, noting down what he saw in rural areas including some terrible rural living conditions. He supported labourers’ riots in 1830, attacked the still largely aristocratic parliamentary system and rotten boroughs, and was also against the Corn Laws, a tax on imported grain.

Much later Victorian writers include Charles Dickens, associated with London and Portsmouth. Hampshire landscapes visited from Portsmouth feature occasionally in his work - at Butser Hill for example, Nicholas Nickleby and Smike join Mr. Crummels’ theatrical company. Sir

---

“Botley lies in a valley, the soil of which is a deep and stiff clay. Oak-trees grow well; and this year the wheat grows well, as it does upon all the clays that I have seen...... This is not much of a barley country. The oats are good. The beans that I have seen, very indifferent”.

“I was very much pleased with what I saw at Durley, which is about two miles from Botley, and is certainly one of the most obscure villages in this whole kingdom. Mrs. Mears, the farmer’s wife, had made, of the crested dog’s-tail grass, a bonnet which she wears herself. I there saw girls plaiting the straw”.

William Cobbett, Rural Rides, 1830

---

6 St Barbe Museum, Lyndhurst
Arthur Conan Doyle also lived in Portsmouth for a time (1882-1930), where he moved to start a medical practice – his novels being penned whilst he waited for business to pick up. He is buried in Minstead, in the New Forest – following a previous interment in Sussex - and the village features heavily in his historical novel *The White Company*. The Crooked Man meanwhile was set in Aldershot.

Turning to 20th Century writers, PG Wodehouse often visited Emsworth in his youth, and later took a lease on a house there called "Threepwood Cottage". Clarence Threepwood, 9th Earl of Emsworth, Viscount Bosham (Lord Emsworth) clearly takes his name from Wodehouse’s surroundings. Blandings Castle, with its idyllic gardens, is rumoured to be based on West Dean in nearby Sussex.

Buckler’s Hard is now a quiet tourist destination but was once filled with landing craft, Mulberry Harbors and other WWII paraphernalia being readied for D-Day’s Operation Overlord. Kingsley Amis and Nevil Shute were stationed there and involved in those preparations. Shute uses the setting in several of his stories, particularly in the poignant Requiem for a Wren.

In film, the New Forest also became Sherwood Forest for a time in *Robin Hood Prince of Thieves*. The beautiful estuarine coastline around Hamble was used in both Merchant Ivory’s *Howard’s Way* and also the infamous soap opera of the same name. Ken Russell meanwhile lived in Lymington for 30 years, and used Hampshire in some of his film sets such as the beach and funfair at Hayling Island in Tommy.

### 9.5.2 Downlands

Moving to the chalk *Jane Austen* (1775-1817) is arguably the county’s most famous author. Austen-related tourism is particularly focused on the village of Chawton, although Austen was born in Steventon, south of Basingstoke and died in Winchester. It was from the cottage in Chawton where Jane drafted and re-drafted the manuscripts which found her literary success. Austen clearly took inspiration from her surroundings - walking is a treasured past-time for many of Jane’s heroines, as is a ‘love of the picturesque’, riding out to see grand houses, landscapes, and ruins.

John Keats (1795-1821) ode ‘To Autumn’ was written during a brief stay in Winchester, inspired by daily walks in through the Cathedral Close and water meadows to St Cross. He liked the city writing that he found it ‘an exceeding pleasant town, enriched with a beautiful cathedral and surrounded by a fresh-looking country’, and composed the poem after being inspired the fields: ‘I never lik’d stubble-fields so much as now……. Somehow, a stubble-field looks warm….. This struck me so much in my Sunday’s walk that I composed upon it.’

While barred clouds bloom the soft-dying day
And touch the stubble-plains with rosy hue;
Then in a wailful choir the small gnats mourn
Among the river sallows, borne aloft
Or sinking as the light wind lives or dies;
And full-grown lambs loud bleat from hilly bourn;
Hedge-cricketts sing, and now with treble soft
The redbreast whistles from a garden-croft;
And gathering swallows twitter in the skies.

*From John Keats, ode ‘To Autumn’, 1819*
Hampshire occasionally features in the writings of Thomas Hardy (1840-1928), with Winchester ringing true as Wintoncester in Tess of the D’Urbervilles with it’s High Courts where Tess was finally executed for murder. The New Forest also features as the Great Forest. Hardy is well known as a ‘landscape writer’ who was particularly concerned about changing landscapes and lifestyles at a time when railways were being built across the landscape, towns and cities were starting to spread, and rural traditions were eroding.

Mottisfont Abbey meanwhile, is synonymous with the inter-war painter, Rex Whistler (1905-1944). Whistler graduated from Slade and was known for his murals, commissioned for the Tate Gallery and for other grand houses including Mottisfont Abbey, before dying on his first day in action in Normandy in WWII⁷. The Whistler Room at Mottisfont was decorated with Gothick Fantasy ‘Trompe l’Eoil’ murals with simulated columns, pelmets and stuccowork.

The ‘traditional’ downland landscapes and great houses have also starred in both the big and small screen. Nether Wallop was the setting for the fictional St Mary Mead in Joan Hickson’s Miss Marple. Winchester Cathedral provided some of the backdrops for the 2007 film ‘Elizabeth, a golden age’ and also starred as the Vatican in Tom Hanks thriller The Da Vinci Code. Avington Park starred as Quentcham Hall in the BBC adaptation of George Eliot’s Daniel Deronda, and one of the finest neo-classical buildings in Britain, Northington Grange near Alresford, provided the backdrop to the 1999 film adaptation of Pushkin’s Onegin, where it was transformed into a sumptuous Russian country house.

Amongst Britain’s greatest composers is Ralph Vaughan Williams (b1872)⁸. Alongside his better known works such as Lark Ascending and a Sea Symphony, Vaughan Williams also collected numerous folk songs from across the UK and abroad. These include Hampshire folk songs - 'On Monday morning' 1909, 'The Green Bed' 1909, and ‘Young Edwin in the lowlands low’ 1907. A contemporary and friend of Williams, Gustav Holst, was known as a prodigious walker, and very fond of the South Downs. He walked over most of the counties of England in all seasons and in all weathers⁹. His rambles, together with regional English folksongs, inspired many of his compositions, including A Hampshire Suite - Op.28 No.2 (1911) which uses seven Hampshire songs.

9.5.3 East Hampshire and the weald

The village of Selborne, near Alton is associated with the naturalist and ornithologist Gilbert White (1720-1793). Born in his grandfathers vicarage, The Wakes, White was ordained himself in 1749, and eventually inherited The Wakes incumbency. He is best known for The Natural History and Antiquities of Selborne, a collection of letters containing his pioneering observations on plants and animals. The Illustrated Natural History of Selborne is still in print, and The Wakes maintained as a museum.

Steep was the home of Edward Thomas (1878 – 1917), a literary critic, book reviewer, and poet who died in World War I. Thomas lived in Steep between 1906-1916. Much of his

---

⁷ http://www.rexwhistler.com/
⁹ http://www.gustavholst.info
poetry contrasts his horrific experiences of war with the peace found in the steep wooded landscapes of the Hampshire Hangers. His love of nature, walking, the occasional pint in his local pub, and the stories of local people are reflected in his poetry; the remoteness of life in rural Steep sharply contrasted reflections on the horrific losses of the war being raged in France.

Landscape painters include William Herbert Allen (1863-1943)\textsuperscript{10} who was a Director of the Farnham School of Art. His love of the border countryside between Hampshire and Surrey resulted in the production of several thousand watercolours, chalk and pencil sketches of the local landscape and its buildings, craft traditions and people. Many of Allen’s pictures show rural scenes of men, machines and animals, but in contrast to popular painters of the time such as Miles Birket Foster, are captured in an unsentimental style. Flora Twort (1893–1985)\textsuperscript{11} meanwhile, specialised in watercolours and pastels of the scenes and people of Petersfield. She was a well known local figure, and her work was exhibited in the Royal Academy and other London galleries. Her pictures typically contain local scenes of Petersfield which are filled with people and animals, with such subjects as The Square on Market Day, or the fair on Petersfield Heath.

9.5.4 North Hampshire

One of the most direct associations is the popular children’s book Watership Down, with the chalk scarp Watership Down which lies where the chalk meets the greensand hangers in the ‘Clere Scarp and Greensand Terrace’ character area 5a. The story, about an anthropomorphised group of rabbits who live in the hillside, was published in 1972, and written by Richard Adams (b. 1920), who still lives locally. It originally started as a collection of stories told to amuse his children when they were out in the countryside together.

In the north west of the county, the village of Bughclere in North Hampshire hosts the Sandham Memorial Chapel, which houses nineteen mural paintings by the expressionist, Stanley Spencer (1891-1959). The paintings (and chapel to house them) were commissioned by Mr and Mrs J Behrend as a memorial to Lieut. H.W. Sandham, and were inspired by Spencer’s experience of World War I, when he was sent to Greece and the Macedonian Front at Salonica. Spencer was born and lived in Cookham, Berkshire. His later landscape paintings were much sought after, two of which feature from his time spent in Burghclere, \textit{Beacon Hill, near Highclere, 1927} and \textit{Cottages at Burghclere 1930}.

\textsuperscript{10} http://www3.hants.gov.uk/museum/allen-gallery/w-h-allen.htm
\textsuperscript{11} http://www3.hants.gov.uk/hampshire-museums/flora-twort/flora-twort-biog.htm
10. FORCES FOR CHANGE ON THE LANDSCAPE

Forces for change are trends which individually and in combination impact on the landscape of Hampshire. Previous sections have outlined how different forces for change have altered out landscapes in the past, such as various periods of house-building which have permanently changed the nature of many urban and urban-fringe landscapes.

### 10.1 Development

<table>
<thead>
<tr>
<th>Past</th>
<th>Now</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Big demographic and societal changes since the 1750s has lead to</td>
<td>• House building programmes continue - between 1999-2008 an average</td>
<td>• The south east plan sets out the targets for new housing development until 2026 and</td>
</tr>
<tr>
<td>various periods of house building particularly from Victorian</td>
<td>of 5,000 houses were built per year in Hampshire</td>
<td>includes and extra 80,000 dwellings in South Hampshire, 16,000 across Central Hampshire</td>
</tr>
<tr>
<td>period onwards (described in Hampshire Townscape Assessment)</td>
<td>• The density of dwellings has increased within all districts,</td>
<td>and the New Forest, 18,300 in Basingstoke and Deane, and 10100 in Hart and Rushmoor.</td>
</tr>
<tr>
<td>• The nature and size of many settlements has completely changed,</td>
<td>particularly within already urban areas, leading to changing</td>
<td>• Pressure on greenfield sites on the outskirts of existing developments – several</td>
</tr>
<tr>
<td>impacting on urban and urban fringe character areas, particularly in</td>
<td>settlement patterns - often totally different from the original</td>
<td>greenfield developments planned.</td>
</tr>
<tr>
<td>south and north east Hampshire, Basingstoke, and the other main</td>
<td>town or village centre</td>
<td>• Increasing density of buildings within existing settlements, and pressure for infill</td>
</tr>
<tr>
<td>towns and cities</td>
<td>• Trend in the building of new estates by single developers</td>
<td>development in suburban areas.</td>
</tr>
<tr>
<td>• Many direct impacts such as loss of Greenfield land, loss of</td>
<td>continues with criticisms over loss of local character, and lack</td>
<td>• Opportunities to improve infrastructure as part of new development, including transport,</td>
</tr>
<tr>
<td>biodiversity assets, loss of recreational assets, changing views,</td>
<td>of attention to ‘green infrastructure’.</td>
<td>community infrastructure and green infrastructure</td>
</tr>
<tr>
<td>loss of tranquillity</td>
<td>• Trend in single-occupancy households, has lead to an increase in</td>
<td>• Climate change impacts – people in urban settlements likely to suffer from impacts of</td>
</tr>
<tr>
<td>• Many secondary impacts of population growth e.g. degradation of</td>
<td>the building of flats, fuelled by Buy-To- Let markets</td>
<td>increased summer temperatures more due to urban heat island effect, particularly affecting</td>
</tr>
<tr>
<td>biodiversity, increasing use of natural resources, increasing traffic</td>
<td>• Conflict over current and future impact of development on</td>
<td>older and younger people.</td>
</tr>
<tr>
<td></td>
<td>European Nature Conservation sites - particularly coastal sites in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South Hampshire and heathlands in north east Hampshire.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Past</th>
<th>Now</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Housing demand – population growth and societal changes leading to</td>
<td>• The south east plan sets out the targets for new housing</td>
<td>• The south east plan sets out the targets for new housing development until 2026 and</td>
</tr>
<tr>
<td>house building programme</td>
<td>development until 2026 and includes and extra 80,000 dwellings in</td>
<td>includes and extra 80,000 dwellings in South Hampshire, 16,000 across Central Hampshire</td>
</tr>
<tr>
<td></td>
<td>South Hampshire, 16,000 across Central Hampshire and the New Forest,</td>
<td>and the New Forest, 18,300 in Basingstoke and Deane, and 10100 in Hart and Rushmoor.</td>
</tr>
<tr>
<td></td>
<td>18,300 in Basingstoke and Deane, and 10100 in Hart and Rushmoor.</td>
<td>• Pressure on greenfield sites on the outskirts of existing developments – several</td>
</tr>
<tr>
<td></td>
<td>• Increasing density of buildings within existing settlements, and</td>
<td>greenfield developments planned.</td>
</tr>
<tr>
<td></td>
<td>pressure for infill development in suburban areas.</td>
<td>• Opportunities to improve infrastructure as part of new development, including transport,</td>
</tr>
<tr>
<td></td>
<td>• Opportunities to improve infrastructure as part of new</td>
<td>community infrastructure and green infrastructure</td>
</tr>
<tr>
<td></td>
<td>development, including transport, community infrastructure and</td>
<td>• Climate change impacts – people in urban settlements likely to suffer from impacts of</td>
</tr>
<tr>
<td></td>
<td>green infrastructure</td>
<td>increased summer temperatures more due to urban heat island effect, particularly affecting</td>
</tr>
<tr>
<td></td>
<td>• Climate change impacts – people in urban settlements likely to</td>
<td>older and younger people.</td>
</tr>
<tr>
<td></td>
<td>suffer from impacts of increased summer temperatures more due to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>urban heat island effect, particularly affecting older and younger</td>
<td></td>
</tr>
<tr>
<td></td>
<td>people.</td>
<td></td>
</tr>
</tbody>
</table>
### Development within villages

- Development within villages different across Hampshire. Some have changed little over the past 100 years; many have changed beyond recognition with development expanding well beyond the original footprint.
- Some villages have experienced loss of traditional character as new housing or industrial development has been built out of keeping with local vernacular.
- Gradual suburbanisation through consumer choice e.g. high fences and entrance ways, loss of hedges, more gates etc.
- Rise of traffic problems within villages; as a consequence many roads have also become urban in nature, changing character, though speed signs, traffic calming measures.
- Loss of vital facilities such as schools, post offices, village shops, doctors and pubs, increasing barriers to services for many rural communities, exacerbated by rural transport issues.
- Climate change adaptation measures designed to reduce summer temperatures could help to improve the quality of life in our towns and cities now and in the future - green roofs, street trees, more parks and waterbodies.
- Villages likely to continue to face pressure for development in line with County trends.
- Affordable housing likely to continue to be an issue unless solutions are found which enable local people to buy genuinely low-cost family homes.
- Parish landscape character assessment techniques being developed and tested which can help show how villages inter-relate with rural hinterland.
- Rural transport solutions could become more innovative and demand-focused to provide access where needed.

### Employment and commercial development

- Move away from a largely land-based agricultural economy to heavy industry, particularly in south Hampshire, to a service-based economy.
- Trends in planning to separate different land-uses has lead to creation of separate employment areas.
- Continued land-use pressures.
- Hampshire a largely service-based economy specialising in finance, high-tech industries, communications, marine industries etc.
- MoD still a major employer in some areas, and military infrastructure still has an impact on some.
- Further land for employment and retail will be needed alongside housing growth, an estimated 2 million sq. m of floorspace in S Hampshire alone, including Greenfield sites.
- Opportunities to use growth as a positive force to tackle inequality.
| industrial and retail parks in most towns. Out-of-town developments have particularly transformed areas such as Hedge End, Segensworth, Whiteley and Frimley on motorway junctions | localised landscapes and towns | • Economic growth and prosperity is not even across the County with some pockets of high unemployment and deprivation, particularly in formerly industrial areas  
• Speculative buyers and landowners in urban-fringe locations can lead to land being unmanaged, impacting on landscape character and also reducing benefit to local people. | • Opportunities to promote the natural environment as a business ‘quality of life’ asset to improve quality of developments and enhancement of landscape character  
• Coastal landuse conflicts will require careful planning, including the pressure for coastal land space to help marine-based industries grow, balanced with residential development, the need to make space for nature conservation, recreation pressures and sea level rise. |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• These changes have had similar impacts on the landscape to housing development</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Transport** | **Vehicle use, including motorway traffic is still increasing at 2% per annum³**  
• Regular congestion in south Hampshire, Basingstoke and other major developments impacting on economic development and air quality.  
• Rural lanes, once a valuable part of rights of way network, now often perceived to be too dangerous to use for walkers, cyclists and horse riders.  
• Other rural issues include ‘rural clutter’ – striking the balance between loss of rural character in villages through increasing road signs and heavy engineering and preventing speeding; rural transport solutions.  
• More urban issues include loss of historic character due to insensitive road schemes; increasing traffic on roads; air quality.  
• Air travel still growing in popularity and often used as an alternative to trains for UK travel; both Hampshire (non military) airports have expansion plans in place. | • Without financial investment congestion could increase even further, although Local Transport Plans and investment could help reduce traffic levels.  
• Rising numbers of passengers on the railways could eventually lead to the re-opening of former rail routes and re-building of stations, and widening of lines in popular locations.  
• Change in lifestyle and consumer choice could also help reduce congestion  
• A change in the management and improvement of roads in line with documents such as the Manual for Streets could improve positive contribution of both rural and urban roads to landscape and townscape character as well as making some roads more pedestrian-friendly⁴  
• Air traffic likely to continue to grow unless faster efficient national rail links developed, government intervention occurs, or rising prices force consumers to cut back on air travel. |  |  |
| • The coming of the railways changed the face of Hampshire from the 1840s, with large urban expansion around the main stations. Dr Beechings cuts in the 1960s however closed several rural lines.  
• Between 1980-2007 national vehicle usage increased by 80%¹  
• Increasing traffic has had an impact on tranquility, increasing noise and disturbance especially landscapes near major routes.  
• The character of many major and minor roads has changed considerably in response to higher traffic levels and safety. Changes include road widening schemes, increasing signage, ‘hard engineering’ solutions (e.g. traffic calming), high visual impact road markings, introduction of kerbs and drainage¹.  
• Air traffic has increased at Southampton, Bournemouth and Farnborough, increasing disturbance for people under flight paths and pressure for expansion. Passenger numbers at Southampton airport increased from 0.5 to 1.4 million between 1994/95 to 2003/04. |  |  |
### Minerals and Waste

- Past change between exploitation of minerals on a small local level to large-scale operations supplying increasing house building programmes.
- Of Hampshire’s mineral assets, brick-clay extraction and brickworks have declined (2 local artisanal works left); Malmstone and flint no longer extracted on a commercial basis.
- Land-based sand and gravel extraction has decreased slightly since the 1980s, but sands and gravels still extracted on commercial basis for construction industry in the Avon Valley, North Hampshire and South Hampshire.
- Increasing levels of waste as populations expand.
- Policy of disposal via landfill changed during 1980s and 90s to ‘reduce, reuse, recycle’, but several landfill sites still in operation. Many more former landfill sites have been restored. Some coastal sites still require flood defence protection.

| Construction in Hampshire still main use for sands and gravel. The amount of sand and gravel used greater than the amount produced, marine aggregates from English Channel also imported via large wharves on the coast. |
| Draft Mineral Plan makes provision for extraction of 1.8 million tonnes p.a of sand and gravel, primarily from Bramshill, Mortimer, Kingsley/Seaford, Hamble area, Ringwood Forest, and coastal areas between Lymington and Christchurch. |
| Strict restoration guidelines mean that site restoration is designed to make a positive contribution to the area once complete. |
| No new minerals-related development planned within internationally important nature conservation sites |

- Sustainable construction - increased recycling expected of aggregates and other construction materials.
- House-building programmes across Hampshire will still require sands, gravels and other aggregates in construction.
- Some material can be supplied from within Hampshire (impacting more on rural communities), but imports will still be needed (impacting on urban areas via wharves and transport of materials).
- New landfill sites needed to accommodate 4.2 million tonnes of non-recyclable material.
- Lifestyle changes could reduce the amount of waste going to landfill.
- New cleaner generation of incinerators convert waste into heat and power.

### Energy

- Centralised electricity generation infrastructure developed which impacts on most landscapes through powerlines and pylons.
- Several oil pipelines cross Hampshire, although less visible, mainly underground.
- High visual impact of Fawley Oil Refinery, Hamble Oil processing plant, Fawley Power Station on the South Hampshire and New Forest Waterside coastlines.

| Domestic and commercial energy still mainly centralised and transmitted via overhead pylons and underground cables and pipes |
| Renewable energies remain relatively undeveloped in Hampshire, with few or no wind-turbine developments, few energy crop schemes |
| Occasional woodfuel schemes in operation through the county, mainly as demonstration projects or on large private estates, although schools and other high heat demand buildings |

- CO₂ reduction targets for all local authorities could lead to increase of biomass power stations, wind, woodfuel, ground-source heat pumps, some of which are more visible than others.
- Micro-generation technologies could impact on landscapes and townscape as businesses and households expected to contribute to targets and ‘generate their own’.
- Changes in farmed landscapes, as farmers.
• Centralised national energy systems mean that energy production otherwise often ‘hidden from view’ in Hampshire starting to consider woodfuel.
• Carbon reduction targets for all local authorities mean that energy starting to enter the planning system, with local renewable production and solutions starting to be considered
• Increasing pressure to accommodate wind farms within Hampshire already leading to conflicts on visual impact grounds
• Woodfuel and micro-generation technologies, plus biomass to sell- normal wheat/oil crops, miscanthus, short rotation coppice
• Use of wood-fuel could have positive impacts on woodland management if this helps stimulate local markets

10.2 Land management

<table>
<thead>
<tr>
<th>Past</th>
<th>Now</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure processes which started in 1700 resulted in great landscape changes, particularly a gain in hedgerows around enclosed fields.</td>
<td>Farming has been in an economic depression with the average farmer making a loss on food production, placing greater importance on diversification schemes and agri-environment schemes to make up for losses.</td>
<td>Climate change will impact on many aspects of farming and the farmed environment including changed land management techniques, type of crops grown (e.g. vineyards, soft fruit, energy crops), changed infrastructure needs (e.g. on-farm water capture and storage, animal shelters, shelter belts, on-farm energy production), drive to reduce CO₂ footprint of products and whole-farm business, increase of issues relating to pests and diseases affecting the industry.</td>
</tr>
<tr>
<td>Since 1800s, increasing mechanisation and agricultural improvements lead to increasing cultivation of semi-natural habitats – downlands, heathlands, and wood-pasture.</td>
<td>Supermarkets still the main market for farm produce, with sharp business practices keeping down share of profits received by farmers</td>
<td>Reform of Common Agricultural Policy likely to continue - issues to be resolved include how to pay farmers to keep providing public benefits such as biodiversity and access and clean water whilst reducing subsides which distort global free trade.</td>
</tr>
<tr>
<td>Increasing mechanisation post WWII plus a ‘drive for production’ saw the cultivation and fragmentation of many remnant semi-natural habitats, and loss of hedgerows</td>
<td>Severe decline of dairy industry in Hampshire continues; an infrastructure-heavy business, so farms lost unlikely to return due to large capital needed to open new businesses</td>
<td>New ways to fund public benefits such as access, biodiversity and clean water may have to be found in the future</td>
</tr>
<tr>
<td>Increase in environmental awareness and drive towards more sustainable practices from 1970s and 80s. The first agri-environment schemes were introduced in 1987 - Environmentally sensitive areas - followed by Countryside Stewardship and then the two tier Higher Level and Entry Level Scheme in 2004 following Common Agricultural Policy reform.</td>
<td>Greater awareness of environmental issues amongst both farming community and public.</td>
<td>Trend likely to continue towards smaller</td>
</tr>
</tbody>
</table>

Farming
Set aside introduced in 1992 as a means of reducing productivity, with up to 10% of land taken out of production at its peak. The Foot and Mouth outbreak in 2001 placed farming in crisis. Hampshire was less badly hit than other counties but countryside closures affected many rural businesses.

- Growth in high quality local food demand from consumers leads to success of farmers markets and farm shops where consumers and farmers brought face to face.
- Farmers in urban-fringe areas continue to face particular issues of managing access, damage from public access, increased planning restrictions etc in some parts of the county.
- Calls by farmers for the UK to look again at Genetically Modified crops likely to increase as farmers seek to increase yields and combat climate change.

Forestry and woodland management

- 1919 - creation of the Forestry Commission (FC) in response to depleted national timber stocks. Land bought across the county for forestry planting. Some coniferous forests planted over semi-natural habitats – particularly heathland- and also over ancient-semi-natural woodland.
- The rise of multi-functional forestry from 1980s, with increasing emphasis on recreation and biodiversity.
- Global markets mean that timber produced abroad often cheaper than UK timber, placing emphasis on highly efficient harvesting techniques in UK. Small-scale or traditional management not economic in global markets.
- Loss traditional woodland management such as coppicing throughout the 20th century. Woodland neglect an increasing problem as skills and knowledge decline, and small-scale management uneconomic.
- Fragmentation of ancient-semi-natural woodlands has also occurred, leaving many small, unlinked woodland patches.

- Woodland cover in Hampshire at 20% is high compared to England average, giving a potential source of energy as yet untapped.
- FC working towards government policy on restoring and expanding open habitats such as heathland in Hampshire.
- FC grants now targeted towards restoration of ancient semi-natural woodland, and linking/buffering existing areas of woodland rather than creation of new woods.
- FC and other publicly owned woodlands in Hampshire have become an important and valued resource for meeting recreation demand, and generate valuable income.
- Neglect of woodlands still a widespread issue leading to loss of structure and biodiversity.
- Creating better local markets for local wood products seen as a solution to improving woodland management, but efforts not always co-ordinated or seen as a priority.
- Number of on-farm woodlands is rising – drivers for this may be grants system but many also managed for game. Value to the Hampshire economy of shooting and game management not known – or numbers of farmers running highly efficient specialised businesses on one hand and greater number of small holders looking for rural retreat on the other.
- Climate change likely to present numerous challenges - loss of biodiversity as fragmentation makes it difficult for species to move between woodland patches; increase in number of diseases, pathogens and pests affecting various tree species, increased damage to trees and woodland through extreme weather, and loss of traditional tree species from some landscapes – e.g. Beech which may establish and grow poorly in predicted new climate.
- Demand for recreation in cool wooded areas could further increase due to hotter summers.
- Increase in woods being divided up into individual lots if economics of management don’t improve.
- The potential for woodfuel to make inroads into carbon reduction targets could see the increase of local markets for timber, stimulating woodland management and improving biodiversity. Needs policies/targets for new developments to incorporate woodfuel.
impacts on woodland management
• Number of pathogens and diseases already increasing and starting to affect various tree species, such as horse chestnut

<table>
<thead>
<tr>
<th>Conservation - protected areas and nature conservation initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Countryside and Rights of Way Act 2000 strengthened legal requirements on local authorities to write and implement AONB management plans. With match funding from Natural England AONB teams also set up.</td>
</tr>
<tr>
<td>• The New Forest National Park was designated in 2006</td>
</tr>
<tr>
<td>• The 1992 Convention on Biological Diversity leads to creation of Biodiversity Action Plans (BAPs), identifying priority habitats actions and delivery programmes.</td>
</tr>
<tr>
<td>• Initiatives such as Wildlife Trusts Living Landscapes help to put ideas on landscape-scale initiatives and spatial planning back on the policy agenda</td>
</tr>
<tr>
<td>• Heathland restoration programmes in the New Forest and North East Hampshire have helped to increase area of heathland and increase positive conservation.</td>
</tr>
<tr>
<td>• Grazing of land for conservation purposes increasingly difficult in line with wider issues in livestock farming. Grazing initiatives started in Hampshire in 1990s to match up graziers with land needing grazing</td>
</tr>
<tr>
<td>• Range of national governmental targets introduced e.g. on SSSIs and farmland birds, helping to focus attention</td>
</tr>
<tr>
<td>• Habitat Regulations Assessment (HRA) provides increased protection for European sites, requiring land use plans to be assessed</td>
</tr>
<tr>
<td>• Hampshire supports 3 AONB teams operating in Chichester Harbour, the North Wessex Downs and Cranborne Chase, implementing a wide variety of rural projects.</td>
</tr>
<tr>
<td>• South Downs has been designated a National Park in 2009, ‘upgrading’ the East Hampshire AONB, and an operational team being formed.</td>
</tr>
<tr>
<td>• BAP process continues, although new spatial initiatives being developed alongside BAPs to help improve spatial targeting of action to restore and enhance habitats including in Hampshire Habitat Opportunity Mapping for key habitats, and creation of Biodiversity Opportunity Areas</td>
</tr>
<tr>
<td>• National Indicator 197 places duty on local authorities to report to DEFRA on the number of local Sites of Important for Nature Conservation under positive management, helping to raise the profile of these sites.</td>
</tr>
<tr>
<td>• HRA assessment of the South East Plan found that recreation pressure from current and planned housing growth could potentially impact on European sites, particularly in South Hampshire and North East Hampshire.</td>
</tr>
<tr>
<td>• New AONB five-year plans will continue to deliver against environmental economic and social initiatives</td>
</tr>
<tr>
<td>• AONB partnerships heavily dependent on continued funding from Natural England; reduced funding would reduce efficiency</td>
</tr>
<tr>
<td>• National Parks both have large populations in and around the boundaries and will face continuing challenges including balancing recreation needs and economic development needs with the needs of environmental conservation.</td>
</tr>
<tr>
<td>• Conservation initiatives likely to continue to focus on landscape-scale approaches to address issues of reducing fragmentation, as well as and enhancing existing habitats to help ensure that habitats are as interlinked and robust as possible to give plant and animal communities the best chance to respond to climate change</td>
</tr>
<tr>
<td>• New regional spatial biodiversity planning initiatives could improve proactive approaches to biodiversity creation and enhancement via policies in spatial plans</td>
</tr>
<tr>
<td>• Suitable Alternative Natural Greenspace in Thames Basin Heaths area and Green Infrastructure planning in South Hampshire have the potential to improve both biodiversity and recreation offer for local people and help reduce conflicts</td>
</tr>
</tbody>
</table>
### Natural Environment and Rural Communities (NERC) act 2006

- Requires all local authorities to have regard to biodiversity conservation when carrying out their functions.

### Military Land Management

- MoD started to purchase large tracts of land for training purposes from the 1890s, and this trend continued during WWI and II.
- Large tracts of undeveloped land still managed by the MoD with varying degrees of access particularly around Andover and the Salisbury Plain, Winchester Downs, Woolmer and Farnborough/Fleet.
- Conservation grazing partnerships between the MoD, Wildlife Trusts and other partners bringing tracts of heathland into positive management.
- Some areas of military land are protected by European nature conservation designations, whilst Military use has exempted other areas from designation. Designations afford the land some protection from development if sold off.

### Amenity

- Changing leisure needs has increased demand for access and recreation facilities from a wide range of different social backgrounds.
- Since WWII various pieces of legislation has lead to creation of National Parks and Country Parks, both with access provision as a primary or key element.
- Within urban areas planning policy guidance has lead to various phases and types of local greenspace provision within towns and cities.
- CRoW Act 2000 places demand on local authorities to produce Countryside Access Plans to improve access.
- Rise in demand for hobbies such as golf, sailing, canoeing creating increased demand for golf courses, pressure on coastal marinas and access sites, plus increased demand for access to inland waters.
- Increasing separation of urban and rural areas means many people still face barriers to accessing the countryside e.g. not being able to read maps, lacking confidence to use rights of way, not knowing where to go.
- ‘Formalisation’ of some countryside sites and woodlands continue e.g. carparks, cafes, toilet blocks, play facilities and waymarked trails in response to demand.
- There is under-provision of local greenspaces within urban areas, particularly South Hampshire, increasing pressure on sensitive sites and exacerbating other social issues such as health and quality of life.
- Increased provision of countryside sites expected under Green Infrastructure initiatives to meet demand from housing growth, and help draw people away from sensitive sites.
- Improvements to rights of way network expected to help increase user confidence and to increase access to the countryside from urban and urban fringe areas.
- Access to the coast likely to receive increasing focus in response to DEFRA Marine and Coastal Access Bill.
### Historic environment

- **20th Century damage to historic environment in settlements** e.g. through WWII bombing, insensitive development e.g. shopping malls and road networks, plus a range of smaller cumulative changes.
- **Intensive farming methods post WWII** sometimes damaged buried archaeology
- **Some protection measures for heritage**, such as Scheduled Ancient Monuments and listed buildings
- **Improved knowledge and information base** such as Historic Landscape Characterisation, Sites and Monuments record.
- **Increasing understanding of the importance of the historic environment resource to society** for sense of place, cultural heritage
- **Environmental Stewardship schemes cover historic environment**, and have often made a real difference to management of features or landscapes, particularly Higher Level Schemes
- **Methods for undertaking Historic Landscape Characterisation** developing, as are ways of helping practitioners and communities interpret HLC data
- **Historic environment seen as a key ‘ingredient’** for improving development – e.g. quality of place and Green Infrastructure planning
- **New Planning Policy Statement 15 due on historic environment**
- **Chance to improve protection of historic environment in strategic planning** e.g. SE plan and Green Infrastructure plans, and use heritage better within developments to improve sense of place
- **Manual for Streets: a companion guide designed to improve consideration of character, historic environment and sense of place in new transport schemes in Hampshire**

### 10.3 Coastal management

To follow

### 10.4 Societal change

#### Demographics

- **Population increased by more than 1,094,900 between 1801 and 2001**
- **The population had reached 200,000 by 1841, doubled to 400,000 in 1921, and doubled again to 800,000 by 1971.** The rate of change may be slowing slightly, as population is not projected to double again to 1,600,000 until well after 2026.
- **Average household size in Hampshire fell from 4.15 people per dwelling in 1931 to 2.47 people in 2001.** The number of households or dwellings rose by 365% in this time (whereas the number of people rose by 300%)

- **Whilst population growth has slowed, societal changes mean that people are living longer, getting married later, and living by themselves for longer.** There is an increasing number of single person households, which combined with an increase in the standard of living, is the main driver in the demand for new homes.

- **Increases in demographics and societal change mean new housebuilding programmes will continue.** See development for details

#### Health and wellbeing
<table>
<thead>
<tr>
<th>Leisure and tourism</th>
<th>Leisure and tourism</th>
<th>Leisure and tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life expectancy has risen dramatically over the past 200 years from just 40 years old for a man in 1851 and 42 for a woman to 76 years for men and 80 years for women in 2001.</td>
<td>Increasing societal and governmental emphasis on healthy living, driving demand for access to countryside for outdoor activities, as well as local parks and leisure routes, and built facilities such as sports centres</td>
<td>Continued governmental emphasis on increasing health and wellbeing through informal recreation likely as a means of reducing costs to National Health Service of preventable illnesses</td>
</tr>
<tr>
<td>Increasing level of disposable income, combined with reduction in average hours worked per week has lead to increase in ‘leisure time’, driving demand for leisure and tourism facilities</td>
<td>Inequality exists across Hampshire, with pockets of places where people may face particular types of deprivation located in South Hampshire, Basingstoke, Andover and the Rushmoor district. Health and sense of well-being likely to be lower in these areas, and people may have particular barriers to accessing the countryside such as lack of money and transport, immobility, or simply not knowing where to go or what to do there.</td>
<td>Continued rise in standards of living and reduction in inequality would see recreation demand increasing rather than decreasing in all sectors</td>
</tr>
<tr>
<td>Leisure and tourism</td>
<td></td>
<td>Focus on a low carbon economy could place increasing emphasis on meeting recreation demand in the local area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gardening and domestic food production</th>
<th>Gardening and domestic food production</th>
<th>Gardening and domestic food production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trends in gardens and gardening have often left elegant legacies in the landscape e.g. – parkland landscapes from the early Georgian period; exotic planting, arboretums and formal avenues from the Gardenesque movement of the 1800s.</td>
<td>Demand for off-road parking and fashion for decking and patios leading to increase in hard surfaces within gardens exacerbating flooding via increased surface run-off</td>
<td>Increasing density of housing, including smaller gardens and more flats likely to exacerbate need for public greenspace and also for allotments</td>
</tr>
<tr>
<td>Public parks from the Victorian and Edwardian era paid for by public prescription often still form important greenspaces in urban areas.</td>
<td>Popularity of organic, local and home-grown food, has lead to rise in demand for allotments, which has outstripped supply in many districts</td>
<td>Potential rise of private allotment initiatives with landowners renting out spare land to local people</td>
</tr>
<tr>
<td>First allotment act came into force in 1887, and allotments rose in popularity through WWI and II, although declined until the 1990s</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>