Key characteristics (continued)

network that largely follows the edges of the system of large fields. The drains and ditches are also an important ecological network important for invertebrates, fish including spined loach, and macrophytes.

- The area is very rich in geodiversity and archaeology, with sediments containing evidence for past environmental and climate changes and with high potential for well-preserved waterlogged site remains at the fen edge, within some of the infilled palaeo-rivers and beneath the peat.

- Large, built structures exhibit a strong vertical visual influence, such as the 83 m-high octagonal tower of 'Boston Stump' (St Botolph's Church), Ely Cathedral on the highest part of the Isle of Ely dominating its surrounding fen, wind farms and other modern large-scale industrial and agricultural buildings, while drainage and flood storage structures and embanked rail and road routes interrupt the horizontal fen plain.

- Settlements and isolated farmsteads are mostly located on the modestly elevated 'geological islands' and the low, sinuous roddon banks (infilled ancient watercourses within fens). Elsewhere, villages tend to be dispersed ribbon settlements along the main arterial routes through the settled fens, and scattered farms remain as relics of earlier agricultural settlements. Domestic architecture mostly dates from after 1750 and comprises a mix of late Georgian-style brick houses and 20th-century bungalows.



Wisbech North Brink - the tidal River Nene and inland port

The Fens today

The Fens are an expansive, flat, open, clay and peat landscape that slowly drains towards the Wash, England's largest tidal estuary. The obvious factor characterising the Fens is the low-lying, level terrain, with much of the land below sea level. The level horizons, large open panoramas and enormous skies create a strong sense of remoteness and isolation. The geological history and human intervention are strongly evident in this landscape, especially in the strong rectilinear drainage pattern that has long been used to make the land viable for agricultural production. The Fens are the bread basket of Britain and the silt and peat soils are a major and essential resource of national importance for agriculture, with wheat, vegetables and sugar beet of major value here.

The geology of the Fens can generally be described as glacial deposits on Jurassic and Cretaceous bedrock. During the Holocene (Flandrian) period, these were overlain by diverse deposits, including sands, silts, clays and peat. Elevated islands of Jurassic clay occur at the inner margins of the area where they may be overlain by Pleistocene tills or glacial sands and gravels. The soils over the wide central and coastal fens comprise rich, fertile, stoneless, calcareous, silty soils of marine origin; while inland there are swathes of dark, friable, organic-rich mineral soils and deeper fen peat, which contains partly fossilised trees known as 'bog oaks'. Due to wastage, the peats are becoming increasingly thin and in extensive areas only remnants of the former peat coverage still remain.

Agriculture is tremendously important to and in the Fens. Fenland farming is nationally important, with a quarter of England's potatoes grown on 25,000 ha here and more than a third of English vegetables on 29,000 ha. Sugar beet, at 21,500 ha, is another major fenland crop. Farmers have recently diversified into more exotic crops such as pak choi. Agriculture is a major employment sector, attracting workers from across Europe.

Water from much of the East Midlands drains eastwards across the Fens into the Wash through four major rivers: the Witham, Welland, Nene and Great Ouse. All rivers now have artificial canalised courses that run straight for long distances and are bounded by high banks to contain the watercourse from the lower adjacent fields. In some locations 'roddons', sinuous silt banks that are fossilised remnants of tidal creek systems, are elevated, in some places up to 2–3 m above the dark peat soils which have subsequently wasted as a result of continuous cultivation, drainage and wind erosion of the peat. This irreversible wastage creates an ever-greater demand for artificial drainage of the land. Remnants of the original fen, as at Wicken Fen, are rare exceptions.

There are marked variations and graduations in the Fens landscape, shaped by the differing lengths of settlement history. The 'settled inland fens', which run in a broad arc inland from the Wash between King's Lynn and Boston, form an ancient, small-scale landscape of sinuous lanes and relative intimacy with a higher density of settlements, some fine churches and remnant grasslands. The extensive 'peaty fens' or 'black fens', which were finally comprehensively drained in the 17th to 19th centuries, comprise broad rectilinear fields and straight roads. The only consistent relief to the level landform are the notches of the drainage ditches and the raised berms and banks of the artificial drainage channels. The fens of south-east Lincolnshire between the settled inland fens, where there are some hedgerows along the sinuous lanes, and the Wolds were the last area to be drained. The drainage here was so thorough that scarcely a vestige remains of what had been one of Britain's richest wildlife habitats. This is an open, productive landscape with a strongly rectilinear form. The band of marshes reclaimed from the Wash by the construction of a series

of sea wall defences begun in the 17th century has fields of vegetable crops that stand alone against the sky. Beyond the defensive walls, salt marshes and tidal mudflats, often abundant with wildfowl, stretch out into the Wash.

The Wash, an internationally important Special Protection Area (SPA)/ Ramsar site, is the largest estuarine system in Britain and this vast seascape supports an extensive habitat mosaic of salt marshes, intertidal banks of sand and mud, shallow waters and deep channels. It is the most important staging post and overwintering site for migrant wildfowl and wading birds in eastern England. It supports a valuable commercial fishery for shellfish, is an important nursery area for flatfish and holds one of the North Sea's largest breeding populations of common seals and some grey seals.

The Fens are also very important for biodiversity. The Ouse Washes and Nene Washes SPA/Ramsar sites are areas of seasonally flooded grassland important for national and international populations of breeding and overwintering waders and wildfowl. Both sites are of note for their diversity of plant and animal life. Their associated watercourses are designated for important spined loach populations. In the Welland catchment, the Counter Drain in Baston Fen Special Area of Conservation (SAC) contains high densities of spined loach. Fenland SAC holds large areas of calcareous fen and is also important for populations of spined loach and great crested newt. The Wash and North Norfolk Coast SAC is considered to be one of the best areas in the UK for sand banks and Atlantic salt meadows. In terms of biodiversity, Wicken Fen is the richest site in the UK; Holme and Woodwalton Fens are also important relic habitats.

There is negligible woodland throughout the Fens landscape, with a few trees lining roads or clustering around villages and the fen estates, as at Thorney. Exceptions include Woodwalton to the west and small ex-decoy woodlands such as in the Eastern Fens, where for instance Friskney Decoy Wood is a Lincolnshire Wildlife Trust (LWT) reserve. Extensive orchards and associated windbreaks are located in the Wisbech area to create a distinctive though dwindling landscape cover.

On the island crests and at the fen margins, archaeological features occur in large numbers, while fewer are known from the undulating deeper parts of the fen basin as here they are covered by blanketing deposits of marine clays, peat and silts. Flag Fen Archaeology Park and Scheduled Ancient Monument is home to a bronze-age wooden causeway, some 3,500 years old, and is a site of national and international importance.

Stonea Camp iron-age hill fort near March in the Cambridgeshire Fens is the lowest-lying hill fort in Britain. It has been suggested as the site of Boudicca's last stand against the Romans. Having defeated the local tribes, the Romans erected a substantial administrative/military building near Stonea Camp to impose their authority in the Fens, by then a probable imperial estate. The Fens were very important in Roman times and the Fen Causeway, or Fen Road, stretched for over 40 km between Denver, Norfolk, and Peterborough through Flag Fen, where it joined the major Roman north–south route, Ermine Street.

Around the low, clay hills, most notably the Isle of Ely, occasional remnant ridge-and-furrow pasture is evident.

The settlement pattern follows the historical development of the area. The settled inland fens or 'townlands' comprise medium to large settlement clusters around Boston, Spalding, Holbeach and Wisbech, with many villages having fine medieval churches, such as West Walton. The medieval pattern of north–south drove lines, between parent and daughter settlements on the coast and fen edge

respectively, was crossed in the 19th century by the A17 and A47. Since then the settlements in these townlands have spread along these principal routes to create ribbon developments of smallholdings, modern bungalows, farmsteads with large agricultural barns, and food processing buildings, such as Sutton Bridge.

The 'peaty fens' inland are, by contrast, very sparsely settled with isolated farmsteads and houses on local areas of raised land being the only built elements for long distances. Many fenland buildings are now derelict; either standing at alarming angles or shored up, while the linear roads have likewise suffered showing significant undulations.

Ely, Boston, Wisbech, Spalding and King's Lynn provide the major historic settlements within the Fens. Ely Cathedral dominates the skyline over a large area 'like a great ship tugging at its moorings' (Betjeman). At Boston, once England's largest port, the 83 m-high octagonal tower known as the 'Boston Stump' is a marker across the open fen. Stone for large buildings, including Ely Cathedral and the Boston Stump, was imported from the quarries of Lincolnshire (Ancaster), Northamptonshire (Barnack, now Cambridgeshire), Rutland and Yorkshire. The brick industries around Whittlesey have provided key vernacular characteristics for the landscape in that area, the products of which have been used for the traditional building style of brick and slate-roofed farmhouses and brick-pantile workers' cottages. The subtle variation in settlement patterns from fen to fen reflects settlement history and the length of time since drainage took place. A few historic pumping stations such as Stretham bear witness to the latter. Local building materials include reed for thatching and clay for bricks, with its variations in colour and texture, but the use of thatch is now exceptional as a result of the loss of reedbeds.

Roads and rail links are often situated on elevated banks, and long straight roads crossing the large fenland fields are typical. Road schemes, power lines, industrial and residential development have had an impact on local character, and light pollution associated with transport networks has become increasingly prevalent.

Communities in this NCA include many migrant workers, have high indices of multiple deprivation (IMD), and various health issues, including obesity, lower-than-average life expectancy and high levels of physical inactivity, and many experience issues with isolation. The ageing population is also an issue.

The fenland waterways are an important recreational resource and there is a major marina at Ely. Long-distance walking routes include the Ouse Valley Way, Hereward Way and Nene Valley Way while the old drove roads are an important cycling resource. Access to wildlife is of major importance for recreation and tourism, especially at the many designated sites with good visitor access. For example, the Wildfowl and Wetlands Trust (WWT) Welney Wetland Centre, part of the Ouse Washes SPA/Ramsar site, is a spectacular swan spectacle and major attraction, and Wicken Fen is one of the top tourist sites in the Fens.



Agriculture in the Fens

The landscape through time

The solid geology of the Fens is dominated by Upper Jurassic marine clays, including the Oxford, Ampthill and Kimmeridge Clays (formed around 157–152 million years ago). Tectonic activity and sea-level changes have raised these deposits above sea level; the clays have yielded tremendously important fossil reptiles and fish new to science, including the pliosaur Pachycostasaurus dawnii and Leedsichthys, the largest fish ever discovered, as well as many invertebrate species. Additionally, an isolated mass of richly fossiliferous Upper Jurassic Corallian Limestone, including coral reef deposits, out-crops around Upware. Lower Greensand rocks at Ely and Stuntney, and Lowestoft Till at March, also form 'islands' for historic centres of human settlement.

Much of this geology is overlain by Quaternary deposits: the area was covered by a large ice sheet during the Anglian glaciation around 50,000 years BP and glacial erosion beneath the ice sheet is thought to be responsible for the scouring-out of the Fen Basin and the area now occupied by the Wash. The ice sheet deposited sands, gravels and clays across the area and left a shallow basin in which later deposits accumulated. During the Holocene, a cyclic succession of peats, estuarine and marine silts, clays and sands was deposited in both terrestrial and marine environments, reflecting sea-level changes and river flood plain activity. These demonstrate a detailed record of climatic and environmental changes over the last 11,500 years although part of this record is threatened by the shrinking peat, increased exposure and erosion. Several Sites of Special Scientific Interest (SSSI) within the NCA have been designated for this geological climate- and landscape-change record.

Much of the human history of the Fens has been a battle of man against the



A modern addition to the landscape

forces of nature to bring out the full agricultural potential of the land. Much of the early archaeological evidence is now becoming apparent as peat wastage exposes evermore well-preserved remains. In the deepest areas of the fen basin, Mesolithic and Neolithic occupation remains lie buried beneath 4–5 m of later water-related deposits. However, these early prehistoric sites occurred on former, dry, land surfaces, indicating a period when these lowest-lying parts of the fen basin were host to dry grassland with areas of pine and deciduous woodlands – a time before the fens were wet. Nationally important designated sites of the Bronze Age are known from Flag Fen, Peterborough and Must Farm, Whittlesey, where wooden platforms, raised causeways, piled settlements and a group of eight boats have been found. In Lincolnshire, evidence of Neolithic and bronze-age occupation is often closer to the surface and tends to be known only towards the western edge.

Roman settlements occurred mainly on the high, drier islands and above the fen edge, while contemporary transport canals indicate huge efforts to traverse and control the fens. Car Dyke links the River Witham to the River Cam, while the Fen Causeway canal and road system linked a major Roman settlement at Peterborough with the Norfolk fen edge at Denver. Although salt-making sites were known throughout the fens from the 1st millennium BC, such as at Northborough, the industrialisation of this economy took off in the Roman period (for example at Deeping and Morton Fens and in the tidal creeks at March) with further expansion during the Saxon and medieval period.

In the Middle Saxon period, from around 650 AD, high-status centres and hermitages on the fen islands became centres of communities which later became monasteries with massive estates such as that at Crowland, Ramsey and Thorney. The earliest sea defences, the sea banks and sea dykes date from this period although they were subsequently expanded and modified.

At the time of the Domesday Book in 1086, monastic houses owned the vast majority of the fen and fen-edge land. The swamps of the 'black fen', veined with watercourses, famously provided refuge for the Saxon folk hero Hereward the Wake in his resistance to the Norman authorities. A monastery preceded the establishment of the abbey and the cathedral church at Ely and lands on the clay island were granted to the monks to tend. The monasteries were at the heart of large-scale attempts to drain the fens, including the creation of stretches of canalised waterways. The River Great Ouse was diverted to run close to the Isle of Ely in the 13th century.

During the Middle Ages, the wetland resource of the Fens was widely used and was a centre of productivity for fishing, wildfowling, grazing, peat extraction and salt production. Medieval fisheries owned by the numerous fen monasteries occur at the margins of the former fen meres, for example those at Whittlesey, Willingham and Soham, and eels were a dominant element of the fenland food repertoire and manorial/local economies. Requiring greater connectivity across the marshes, the medieval monasteries and abbeys promoted the realignment and canalisation of some of the fenland rivers, as at March and Ely, and created canals and slades for transport between various islands – such as those between Ely, Chatteris and Ramsey.

In the 15th century, further attempts to create comprehensive drainage systems included the 22-km Mortons Leam, which still functions today, cut between Peterborough and Guyhirn under the aegis of Bishop Morton to carry waters of the River Nene to the Wash. This was the prototype for post-medieval fenland drainage schemes. Piecemeal drainage through 'assarting', the process by which common land was enclosed under licence from landlords, allowed areas off the fen edge to be drained. This can be seen in the field systems surrounding some of the fen islands.

Seasonal grazing was prevalent in the medieval period when a pattern of radiating drove lines known as 'The Smeeth' developed between the coast and the inland grazing on the fens. Salt-making was also characteristic at that time. Residual mounds or 'salterns' remain in many places, especially at Spalding and around Boston. There is a line of salterns extending several kilometres southwards from Wainfleet.

The earthworks of 17th-century English Civil War defences are preserved in many parts of the fens, especially at the river estuaries and around the Wash. In the same century, the most important phase of land claim began when the 4th Earl of Bedford gained a Royal Charter to drain the 'wastelands' to create good summer grazing. The first engineering works commenced in the 1630s, but progress was halted by the Civil War. In the 1650s, Cornelius Vermuyden, a Dutch engineer, was appointed to continue the works. Rivers were straightened to increase water flow and sluices created against tidal inflow. The Hundred Foot or Ouse Washes were created to enable temporary controlled flooding at high tides and high river levels. Through this process the North, Middle and South 'Bedford' Levels were created. At this time, the economy in the area depended heavily on fishing, especially of eels, wildfowling and mixed farming. The fiercely independent locals, known as the 'Fen Tigers', fought against the drainage works which they thought would take away their livelihoods.

As peat soil was drained, it wasted and land levels lowered, which necessitated artificial pumping. In the 18th century, wind-powered pumps covered the landscape, to be replaced by steam pumps in the 19th century which allowed the shallower open water of the meres to be drained. Whittlesey Mere was the last mere to be drained in the 19th century. Reclamation of the coastal salt marshes has also been significant, with new sea walls built to extend the rich agricultural land into the Wash resulting in loss of estuary habitats. Today, diesel and electric pumps are used to manage water levels.

The drainage was so advantageous to the productivity of the land that the former pastoral areas were converted to Grade 1 soils suitable for intensive arable, vegetable and horticultural production, with rebuilt farmsteads accommodating the yard-fed cattle whose manure further boosted fertility. The wealth created by the drainage of the area also came from new sources such as seed and bulb cultivation. The last areas to be drained were the East, West and Wildmore Fens of south-east Lincolnshire. Besides the draining of the inland fens, the reclamation of the coastal salt marshes has been significant. Council smallholdings developed as a distinctive feature of the Fens in the late-19th to mid-20th centuries.

The most noticeable change in the landscape at the end of the 20th and beginning of the 21st centuries has been caused by improved farming techniques such as trickle irrigation and the use of more precise technology. The Fens have remained mainly rural, although infrastructure – including wind turbines and rail gantries, visible from long distances – has been constructed. The bombing range at RAF Wainfleet has now closed but RAF Holbeach is still in regular use with aircraft noise carrying across wide areas. There have been recent efforts to re-create fenland to provide important habitat for rarer species and there has been focused activity on re-creating areas of wet grassland and fen, in particular at the Great Fen through the Great Fen Project, with the intention of creating an important link between Woodwalton and Holme Fens in the Cambridgeshire Fens. Partnership working elsewhere is also focusing efforts to re-create fenland to provide important habitat for rare species.

Ecosystem services

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

Provisioning services (food, fibre and water supply)

- **Food provision**: Of the soils in the Fens, 87 per cent are classified as Grade 1 and Grade 2 agricultural land. The Fens NCA is one of the most important areas of food production in the UK, producing 37 per cent of our outdoor vegetables, 24 per cent of our potatoes, and 17 per cent of our sugar beet. An estimated 4,000 farms employ 27,000 people, pointing to some very intensively managed systems of food provision. Cropping includes a mix of arable crops, field-scale vegetables and fruit (for example around Wisbech). Glasshouses, polytunnels and plastic sheeting are a feature on the productive soils and multiple cropping is often undertaken with irrigation to satisfy market forces. This can place significant stress on soil and water resources.

- **Water availability:** There are a number of major rivers in the NCA, including the Great Ouse, rising on the Yardley–Whittlewood Ridge on the Northamptonshire–Buckinghamshire border, and the Nene and Welland, which rise in the Northamptonshire Uplands NCA. Small parts of a number of major aquifers fall just within the Fens NCA boundary. Where catchment abstraction management strategy (CAMS) assessments have been undertaken, their status is assessed as 'no water available' in the summer months and 'water available' during the winter months. Rivers in the south and far south-east of the NCA generally have an 'over-abstracted' status. This has implications for active river processes, and the ecosystem services provided, throughout the system. Groundwater is also over-abstracted and again the underlying geology has implications for storage and yield.

- **Water availability:** There are opportunities to preserve old varieties of fruit from traditional orchards for their taste, their genetic information and possible future crop breeding for resistance to diseases, for instance. A few rare breed livestock are maintained in the Fens – these are an important genetic resource.

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

- **Climate regulation:** Peat deposits represent a key part of the carbon storage resource of the UK. Salt marshes and mudflats also have potential for long-term storage of carbon. Based on a review of the available literature, it appears likely that fenland peat soils are wasting at up to around 2.1 cm/year. For the surviving areas of deep peat it is estimated that the average wastage rate is around 1.5 cm/year. This is equivalent to around 9 per cent of the annual loss of organic carbon from 0–15 cm depth of all soils across England and Wales reported by Bellamy and others (2005) and about 0.3 per cent of the UK's annual industrial emissions of carbon dioxide.

- **Regulating soil erosion:** Loamy and clayey soils with impeded drainage, particularly those with a high silt content, are easily compacted by machinery or livestock if accessed when wet, increasing risks of localised water run-off. Lighter-textured, silt-rich soils are at risk of water erosion

and sediment loss where cultivated or if bare soil is exposed, but this is likely to be localised due to lack of gradients. The coarser-textured (fine sandy and silty) mineral soils are also prone to wind erosion, particularly where low in organic matter content.

The peat-rich soils in this NCA are at risk of erosion. Loss of peat soil through peat wastage as a result of shrinkage by drainage and oxidation and wind erosion of exposed soils is particularly problematic with spring-sown root cropping such as sugar beet, carrots and parsnips where land is exposed throughout the winter. Wind erosion can be a major problem – 'fen blows' during prolonged dry spells can quickly erode large quantities of soil and, if they occur shortly after seeding, can result in large economic losses.

The loamy and sandy soils with naturally high groundwater and a peaty surface and the fen peat soils typical of inland areas are permeable soils with good infiltration and therefore at low risk of water erosion (except where cultivated land is susceptible to flooding) but are at high risk of wind erosion (blowing), especially where spring-sown crops are grown. Drainage and cultivation are leading to ongoing loss (wastage) of surface peat through shrinkage and oxidation.

Water erosion of soils is an issue in the Little Ouse priority catchment with light sandy soils, under maize and root cropping. In the Lincolnshire Coast Rivers catchment, water erosion may be associated with outdoor pig rearing or intensive cereal and oilseed rape production.

Increased rates of erosion and weathering are also likely as a consequence of future climate change.

- **Regulating soil quality:** The fine, light silty fens and the dark, humus-rich peaty fens are the key natural resource of the Fens. Wastage and lowering of the inland peat areas and the gradual transformation of their soils over time from peaty to mineral dominated, together with sea-level rise in an area dominated by pumped artificial drainage, will have a major impact on the ecosystem services provided in the longer term. In some wasted peat soils, locally the subsoils become highly acidic giving rise to hard, iron-rich 'drummy' layers affecting crop rooting and growth, and for damaging iron-ochre formation which blocks drains.

- **Regulating water quality:** Excess nitrates, phosphates and pesticides have led to pollution and eutrophication in watercourses. In addition, soil erosion is identified as an issue. The Anglian River Basin Management Plan indicates that the ecological status of rivers and waterways in the NCA is either good or moderate. Owing to a range of factors (cross-compliance, Environment Agency (EA) schemes, catchment sensitive farming (CSF), technological improvements and better understanding among farmers), water quality is improving. Chemical water quality is generally good apart from sections of the Nene and Great Ouse which fail to reach good status within the majority of their lengths within the NCA. Where the groundwater chemical status has been assessed, it is rated as good.

- **Regulating water flow:** The Fens are low lying with much land below sea level. The Environment Agency flood risk map indicates that the majority of the NCA is at high risk of river and/or coastal flooding. Flood control is a key issue for most of the NCA, particularly since the major flooding events in 1953. Possible increases in precipitation associated with climate change may lead to an increase in flooding. However, most settlements are offered some protection from flooding by manmade defences on

the coast and main rivers. In addition, washlands (areas of permanent grassland deliberately flooded to prevent rivers overtopping) have been created on the major river systems.

- **Regulating coastal flooding and erosion:** The coastline within this NCA is formed of mudflats and salt marshes, which provide internationally important habitats for wildlife as well as important natural sea defences, backed by manmade coastal defences. The salt marshes are currently increasing in area, affording increased natural protection for the coastline. Over the medium and long term, it is probable that the balance of salt marsh and mudflats will change or be lost altogether through erosion, as a result of climate change, and associated isostatic adjustment will increase coastal squeeze where the salt marsh is constrained by coastal defences on its landward side. In the short term, the policy approach is to hold the existing sea bank alignments and in the medium and long term (with the risk of erosion of mudflats and salt marshes) landward realignment will need to be considered as an alternative to holding the line. Climate change presents a challenge to how we regulate/change the balance.

Cultural services (inspiration, education and wellbeing)

- **Sense of place/inspiration**: The sense of place in the Fens is provided by the geodiversity underpinning the large-scale, flat and open landscape with long views, expansive skies and spectacular sunsets. The feeling of scale is further emphasised by the rich and varied, intensive agricultural land use that also produces strong seasonal changes from the black of bare, peaty soils to the rich colours of agriculture to the whites of winter. The feel and light in the landscape can quickly change with weather conditions. The landscape and its associated wildlife have inspired artists including Sir Peter Scott (who founded the Wildfowl and Wetland Trust) and more recently Carry Akroyd.

Traditional activities such as ice skating on frozen marshes, eeling and punting through reedbeds have become even more marginalised during the 20th and early 21st centuries. Graham Swift's 1980s novel Waterland keenly identifies the changing lifestyles of fenland people.

- **Sense of history**: The Fens' distinct history and character is inextricably associated with the rich soils which are only accessible as a result of persistent efforts to drain the area. The drainage infrastructure (including the network of drainage ditches, embankments and pumping stations) provides an evident reminder of the area's reclaimed past. The sediments themselves contain a record of ancient landscape and climates, with the currently wasting peat revealing well-preserved remains of prehistoric landscapes with especially rich archaeology, including prehistoric and Roman artefacts and features found on fen margins. Diverse field patterns are being exposed, ranging from the ancient semi-regular enclosure of the settled fens to the engineered 18th-century fields of the open inland fens.

  The underlying clay has enabled a brick-making industry which has been a major part of local economies and provided much employment at the 'brick pits.'

- **Tranquillity:** Many parts of the Fens are tranquil, particularly around the edge of the Wash. The open and empty landscape means different things to different people; some can find it featureless and intimidating whereas others value the tranquillity that still persists away from the settlements and major transport corridors. Sense of tranquillity is likely to be particularly associated with the area's remaining wetland habitats, notably the large marsh areas adjacent to the Wash.