Table 16 Magnitude of Visual Effects

Magnitude of Visual Effect	Visual Criteria
Very Large	Where the proposals become the only dominant feature in the view and to which all other elements become subordinate. Typically involves direct views at close range over a wide horizontal and vertical extent.
Large	Where the proposals would form a significant and immediately apparent element of the scene and would affect the overall impression of the view. Typically involves direct or oblique views at close range with notable changes over the horizontal and vertical extent.
Medium	Where proposals would form a visible and recognisable new development but where it is not intrusive within the overall view. Typically involves direct or oblique views at medium range with a moderate horizontal and/or vertical extent of the view affected.
Small	Where proposals constitute only a minor component of the wider view, which the casual observer could miss or where awareness does not affect the overall quality of the scene. Typically involves an oblique view at medium or long range or a direct view at long range with a small horizontal/vertical extent of the view affected.
Very Small	Where only a very small part of the development is discernible or that it is at such a distance that the effects are scarcely appreciated.

Ap 3.5.13 Where variations between relevant criteria occur, reasoned professional judgement is applied and described in the assessment to determine the magnitude of effect.

Nature of Visual Effect

Ap 3.5.14 Changes to view can be of a **positive**, **negative** or **neutral** nature. The determination of the nature of effect on view is related to the Baseline Situation and what is considered to be either a desirable or an undesirable change. The assessment of the nature of visual effect focuses on what is *experienced*, although some professional judgement has (by necessity) been applied to consider the subjective matter of whether the change could generally be received by the visual receptors as positive, negative or neutral. The assumptions and judgements made are reasoned in the text.

Significance of Visual Effects

Ap 3.5.15 The significance of visual effects (from an impact) is a function of the sensitivity of the affected visual receptor, the magnitude of change and the nature of effect. While the methodology is designed to be robust and transparent, professional judgement is ultimately applied to determine the significance of each effect.

Ap 3.5.16 The results of the assessment have been presented by providing a brief description of the existing view from each principal representative viewpoint/receptor, followed by a description of changes to the view and the landscape scene and an analysis of the magnitude and nature of the effects.

Ap 3.5.17 The significance of visual effects is defined in **Table 17.** These are different for beneficial and adverse effects. Generally, an effect which is of 'Major' significance, or above, is likely to be a pertinent 'material consideration' in the decision-making process.

Table 17 Significance of Visual Effects

Significance	Adverse Visual Effects	Beneficial Visual Effects
Negligible	Adverse effect has minimal significance due to low visual amenity even from otherwise sensitive viewpoints. Produces only very slight deterioration to views	Beneficial effect has minimal significance due to limited scope to improve existing view even from sensitive viewpoints. Provides only very slight improvement to views.
Minor	Typically: Large-very large scale deterioration to low sensitivity views of low quality. Small scale deterioration to lower and Medium sensitivity views of high quality. Very Small-Medium scale deterioration to higher sensitivity receptors with low existing visual amenity.	Typically: Medium scale improvements to existing views with high visual amenity and Medium sensitivity. Small scale improvements to views of low visual amenity from low sensitivity viewpoints. Very Small scale improvements to low quality high sensitivity views
Moderate	Typically: Noticeable Long-term or Large scale deterioration in low sensitivity but high quality views. Medium scale deterioration to Medium sensitivity high quality views and Very Large changes to low quality views. Small scale and Temporary deterioration in Highly sensitive and high amenity value views and larger scale deterioration in low quality views.	Typically: Noticeable large-scale improvement in unimportant views with low existing visual amenity and visual sensitivity. Small to Medium scale improvements to views from Medium and High sensitivity viewpoints with low existing visual amenity. Very Small scale improvements in existing low visual amenity from Very High sensitivity viewpoints.
Major	Typically: Medium scale deterioration in High sensitivity, high quality views, or larger scale deterioration in High sensitivity but lower quality views. Small scale deterioration to higher sensitivity views of high quality. Considerable Long-term deterioration in Medium sensitivity views of high amenity value.	Typically: Large to Very Large scale improvements at Medium to High sensitivity locations. Medium to Large scale improvements to High sensitivity viewpoints with low existing visual amenity
Substantial	Clear and obvious Very Large-scale adverse changes resulting in considerable and Long-term deterioration in Highly sensitive and important views	Clear and obvious very large scale changes resulting in considerable and Long-term improvement in existing poor view for High sensitivity receptors

APPENDIX 4. NATIONAL LANDSCAPE CHARACTER ASSESSMENT EXTRACTS

National Character Area profile:

46. The Fens



NATURAL ENGLAND

www.naturalengland.org.uk

Introduction

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

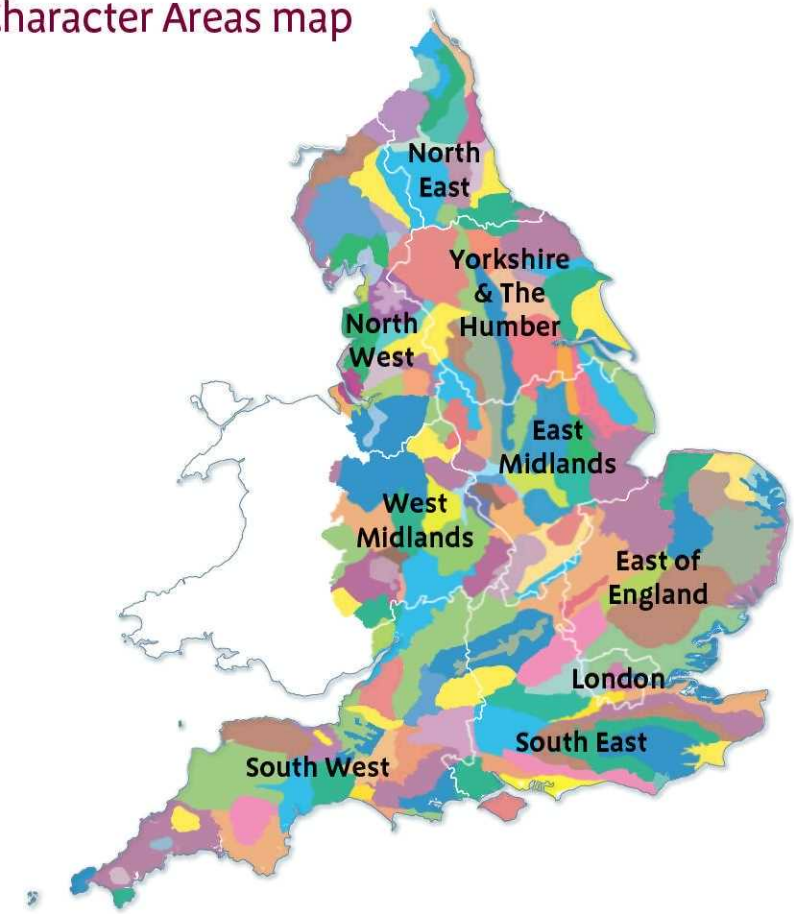
NCA profiles are guidance documents which can help communities to inform their decision-making about the places that they live in and care for. The information they contain will support the planning of conservation initiatives at a landscape scale, inform the delivery of Nature Improvement Areas and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

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

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

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

National Character Areas map



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

Summary

The Fens National Character Area (NCA) is a distinctive, historic and human-influenced wetland landscape lying to the west of the Wash estuary, which formerly constituted the largest wetland area in England. The area is notable for its large-scale, flat, open landscape with extensive vistas to level horizons. The level, open topography shapes the impression of huge skies which convey a strong sense of place, tranquillity and inspiration.

It is a large, low-lying, flat landscape with many drainage ditches, dykes and rivers that slowly drain towards the Wash, England's largest tidal estuary. The single obvious factor uniting the Fens is the low-lying, level terrain reflecting its geological past. With the exception of the Isle of Ely, which reaches above 20 m, elevations rarely pass the 10 m contour, and typically vary by little more than one or two metres over long distances. Much of the land is below sea level, relying on pumped drainage and the control of sluices at high and low tides to maintain its agricultural viability. The level horizons and the huge scale of the landscape create a strong sense of isolation and tranquillity, and a distinctive sense of place. There are, typically, large open panoramas and enormous skies, whose changing weather patterns have a strong influence on the observer. Four major rivers drain into the Wash: 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.

The Fens are the bread basket of Britain. The drainage of this area from the 17th century onwards presented valuable soils which provide excellent conditions for large-scale cultivation of arable and horticultural crops; holdings of more than 100 ha make up 77 per cent of farmed land. As cultivation techniques have become more intensive, however, the soil resource is increasingly diminished through desiccation and erosion. Clays and silts laid down by marine incursions dominate the area abutting the Wash and extend inland along the rivers, forming the fertile horticultural soils of the silt fens. This area is now marginally higher in altitude than the inland peatlands which have 'wasted'. The fertile peat soils have been historically drained and managed to support national food production at the expense of other ecosystem services. Drained peat is more vulnerable to loss, particularly where the deposits are deep and the water table is kept artificially low. Peat wastage through shrinkage, oxidation and wind erosion is a long-term issue affecting the ecosystem services of the Fens.

The Wash includes salt marsh and mudflats that support large, internationally important populations of seals, waders and wildfowl, including pink-footed and Brent geese, shelduck, knots, oystercatchers, common terns and various plover species. It is accordingly designated a Ramsar site, a Special Area of Conservation (SAC), a Special Protection Area (SPA), a European Marine Site (EMS), a Site of Special Scientific Interest (SSSI), a National Nature Reserve (NNR) and a Local Nature Reserve (LNR). Other important wetland habitats include areas of relic old fen, washland, rivers, drains and a network of lesser drainage channels known locally as ditches, dykes or sewers.

Several SSSI in the Fens are designated for their buried interest – a geological record contained in the sediments of the Wash basin and fenland – making an important contribution towards our understanding of the effects of

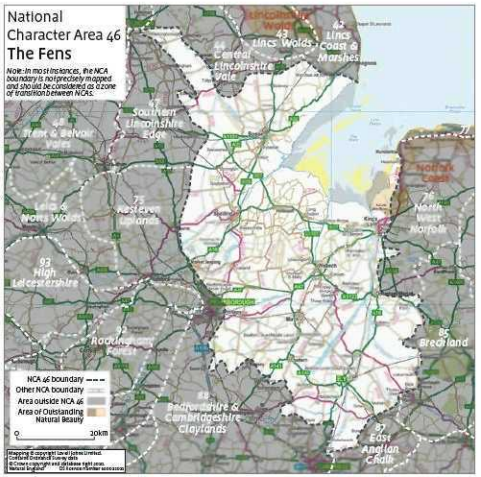
climate and environmental change over millions of years. Also, the Oxford Clay and Kings Dyke brick pit have been very important for palaeontology, with major Jurassic reptiles including the pliosaur Pachycostasaurus dawnii unearthed here. Leedsichthys, the world's largest fish, was discovered in these sediments and is still being unearthed from them.

There is a long history of human occupation here, accounts of which can be found in the Historic Environment Records for Norfolk, Suffolk, Cambridgeshire, Peterborough and Lincolnshire. Early prehistoric sites are mostly deeply buried beneath the fen sediments or occur on the low slopes of the higher fen 'islands'. Scheduled Ancient Monuments of prehistoric to post-medieval date are located across the fens and many undesignated sites and monuments are known, again mainly from the fen edges and islands. However, Flag Fen is a site of international importance – a preserved, wooden, bronze-age platform and causeway crossing the marsh to the east of the Peterborough fen edge, off which votive deposits (symbolising a wish, desire or prayer) of bronze and iron tools, weapons and decorative items were thrown into the marsh.

Ancient remains of settlements or task sites are increasingly being discovered as the peat dries out across the fenland area, or through development – for example eight log boats were found in an ancient river channel along with associated riverside settlements at Whittlesey, and numerous artefact scatters of prehistoric to Roman sites are annually ploughed up where the peat is thinnest on the gravel island edges and emerging crests. The impressive Ely Cathedral is a major landmark dominating the Cambridgeshire peat fen from its location atop the Isle of Ely, as is 'Boston Stump' (St Botolph's Church, Boston) in the Lincolnshire silt fen, while similar island-top locations were also used for monastic and secular establishments across the fenland region (such as Ramsey, Thorney, Crowland and Chatteris). Lodes, slades and canals historically formed the early transport opportunities across the fens, commencing after the Roman conquest of Britain but increasingly in the late Saxon and medieval periods.

Authors Sir Harry Godwin and H.C. Darby have written major works on the Fens, and Rex Sly has chronicled the history of the Fens from Roman times until the present and written about fenland families and life in a series of three books published in the 2000s. Chris Gerrard has authored a book of work by fenland artists showcasing the landscapes and biodiversity of the Fens.

Although many of the Fens waterways are heavily embanked, limiting views across the landscape, water-based recreation is a popular pastime with a focus at Ely marina. Angling is popular here.



Click map to enlarge; click again to reduce

Statements of Environmental Opportunities:

- **SEO 1:** Manage the agricultural landscape and soils which allow the Fens to be a major provider of food and horticultural produce, while seeking to enhance opportunities for biodiversity.
- **SEO 2:** Manage the core wetland complexes and increase their connectivity by enhancing the main rivers, waterways and their associated riparian habitats and improve recreational access opportunities to the Fens.
- **SEO 3:** Plan for the creation of new coastal landscapes in the Wash area that are adapted and resilient to the impact of climate change, for the benefit of people and wildlife.
- **SEO 4:** Conserve, manage and enhance the Fens landscape and increase educational opportunities to access its geodiversity, archaeology and cultural heritage to enhance enjoyment and understanding for those who live and work in and visit the Fens.



The Fens today

Description

Physical and functional links to other National Character Areas

The area abuts a number of other National Character Areas (NCAs). To the east lie North West Norfolk and The Brecks NCAs. To the south-east rises the gently rolling East Anglian Chalk NCA and to the south-west is the undulating Bedfordshire and Cambridgeshire Claylands NCA. To the west rise the gently shelving slopes of the Kesteven Uplands and the South Lincolnshire Edge NCAs. To the north-west the woods and gravel workings of the Central Lincolnshire Vale NCA gradually slope down to the Lincolnshire fens, while due north the Lincolnshire Wolds NCA rises to create a dominant 'upland' horizon. The Steeping River marks the quieter north-east boundary to the Lincolnshire Coast and Marshes NCA. The land boundary of the Fens is typically drawn along a series of catchwater drains, dykes, canalised rivers and lodes. To the north-east the Fens are bounded by the North Sea.

Four main rivers, the Witham, Welland, Nene and Great Ouse, drain much of the surface water from the East Midlands across the Fens. The rivers often flow in canalised channels before discharging into the large Wash estuary. The rivers and their associated networks of ditches and dykes provide ecological networks and functional links to other NCAs.

Marine processes strongly influence the physical and biological character of the Wash. Marine sediments originating from the eroding nearshore seabed off central Lincolnshire and the Holderness coast of East Yorkshire predominate, although some accreted sediments originate from further north. While much of this sediment settles within the Wash, some moves seaward again to help supply the coastal structures along the North Norfolk coast.

Due to its low-lying landform, views to and from the neighbouring NCAs strongly reflect their geology, particularly the higher ground of the gently rolling East Anglian Chalk NCA to the south-east, the undulating Bedfordshire Claylands to the south-west, and to the west the gradually shelving slopes of the Kesteven Uplands and the South Lincolnshire Edge NCAs, while due north the Lincolnshire Wolds NCA rises to create a dominant elevated horizon. There are vast, open views of the sky throughout and wide, flat panoramic views, particularly over the mudflats of the Wash in the east.

Fenland farming is nationally important with, for example, a quarter of England's potatoes grown here and over one-third of English vegetables. Agriculture is the major source of employment, with approximately 27,000 people employed either permanently or seasonally/temporarily throughout the year. Nearly 90 per cent of the Fens were classified as either Grade 1 or Grade 2 agricultural land under the Provisional Agricultural Land Classification (ALC) survey of the late 1960s and early 1970s. Peat wastage will have reduced this since then.

The Fens play host to several major transport links. The East Coast railway mainline cuts across the south-western corner and there are east–west rail passenger and freight lines running through the area. Major roads include the A47, the A16 and A17, among numerous other A roads which form transport corridors across the landscape. Other major infrastructure, such as power stations, major gas and electrical distribution networks, either supply surrounding NCAs or the Fens are supplied by them.

Distinct areas

- Open coastal marshes
- Drained coastal marshes
- Settled inland fens
- Open inland fens

Key characteristics

- Expansive, flat, open, low-lying wetland landscape influenced by the Wash estuary, and offering extensive vistas to level horizons and huge skies throughout, provides a sense of rural remoteness and tranquillity.
- Jurassic clays are overlain by rich, fertile calcareous and silty soils over the coastal and central fens and by dark, friable fen peat further inland. The soils are important for agriculture, which is hugely significant for the rural economy in the Fens. There are over 4,000 farms in the Fens; enough wheat is grown here annually to produce a quarter of a million loaves of bread and one million tons of potatoes are grown here. In addition to traditional vegetables, exotics such as pak choi are now cultivated. Some 40 per cent of England's bulbs and flowers are also produced in the Fens.
- The Wash is the largest estuarine system in Britain, supporting internationally important intertidal and coastal habitats influenced by constant processes of accretion and deposition, forming salt marsh and mudflats and providing habitats for wildfowl, wading birds and other wildlife, including grey seals and approximately 90 per cent of the UK's common seals. It also provides important natural sea defences and plays a key role in climate change regulation. Flood storage areas on the Nene, Cam, Lark and Ouse washes also provide significant biodiversity interest. True fen mainly occurs at remnant conservation sites, such as Baston or Wicken Fen.
- Overall, woodland cover is sparse, notably a few small woodland blocks, occasional avenues alongside roads, isolated field trees and shelterbelts of poplar, willow and occasionally leylandii hedges around farmsteads, and numerous orchards around Wisbech. Various alders, notably grey alder, are also used in shelterbelts and roadside avenues.
- The predominant land use is arable – wheat, root crops, bulbs, vegetables and market gardening made possible by actively draining reclaimed land areas. Associated horticultural glasshouses are a significant feature. Beef cattle graze narrow enclosures along the banks of rivers and dykes and on parts of the salt marsh and sea banks.
- Open fields, bounded by a network of drains and the distinctive hierarchy of rivers (some embanked), have a strong influence on the geometric/rectilinear landscape pattern. The structures create local enclosure and a slightly raised landform, which is mirrored in the road