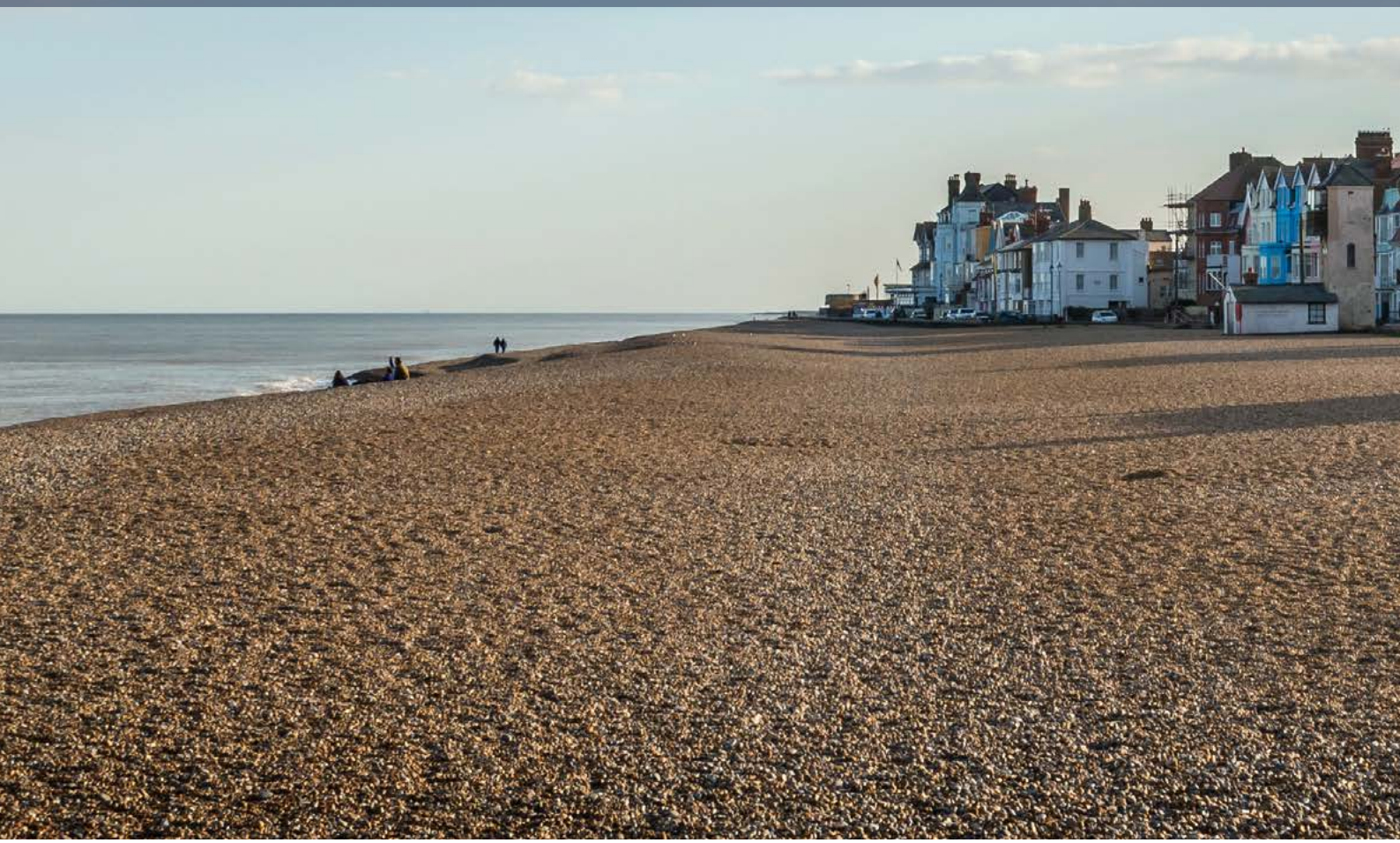
Part A: Strategy Area Description

“There is a hint of wildness in Suffolk's tamed beauty, and the tang of the North Sea is never far away.” - Patricia Moyes

Suffolk is an undulating county of low rolling hills and a central plateau, split by meandering river valleys. The county is bookended in the east by the Suffolk estuaries and a dynamic coast, and in the west by the sandy Brecks, The Fens, and the chalk hills that further west become the Chilterns. Much of the land is low-lying, nowhere more than 128 metres above sea level, and an average elevation of 35 metres.

Suffolk’s habitats and species reflect its variable geology and soils as well as centuries of human occupation and modification through farming, forestry and settlement. This interaction has shaped the patchwork of habitats across our estuaries, wetlands, open coast, heathlands, meadows, woodlands and farmed countryside that we see today.



The wide expanses of Suffolk’s shingle beaches, like this one in Aldeburgh, provide a vibrant ecosystem for diverse species, from nesting seabirds to coastal flora.

Nature conservation action in Suffolk has a long history, having provided the country with some of its earliest nature reserves and conservation success stories. In the 1930s and 40s, the RSPB purchased North Warren reserve in Aldeburgh and began managing the now famous coastal wetlands at Minsmere, purchasing Havergate Island on the River Ore in 1948. The wealth of wildlife and habitats in Suffolk is reflected in the 38,458 hectares under one or more nature designation, some 10.1% of the total county land area.

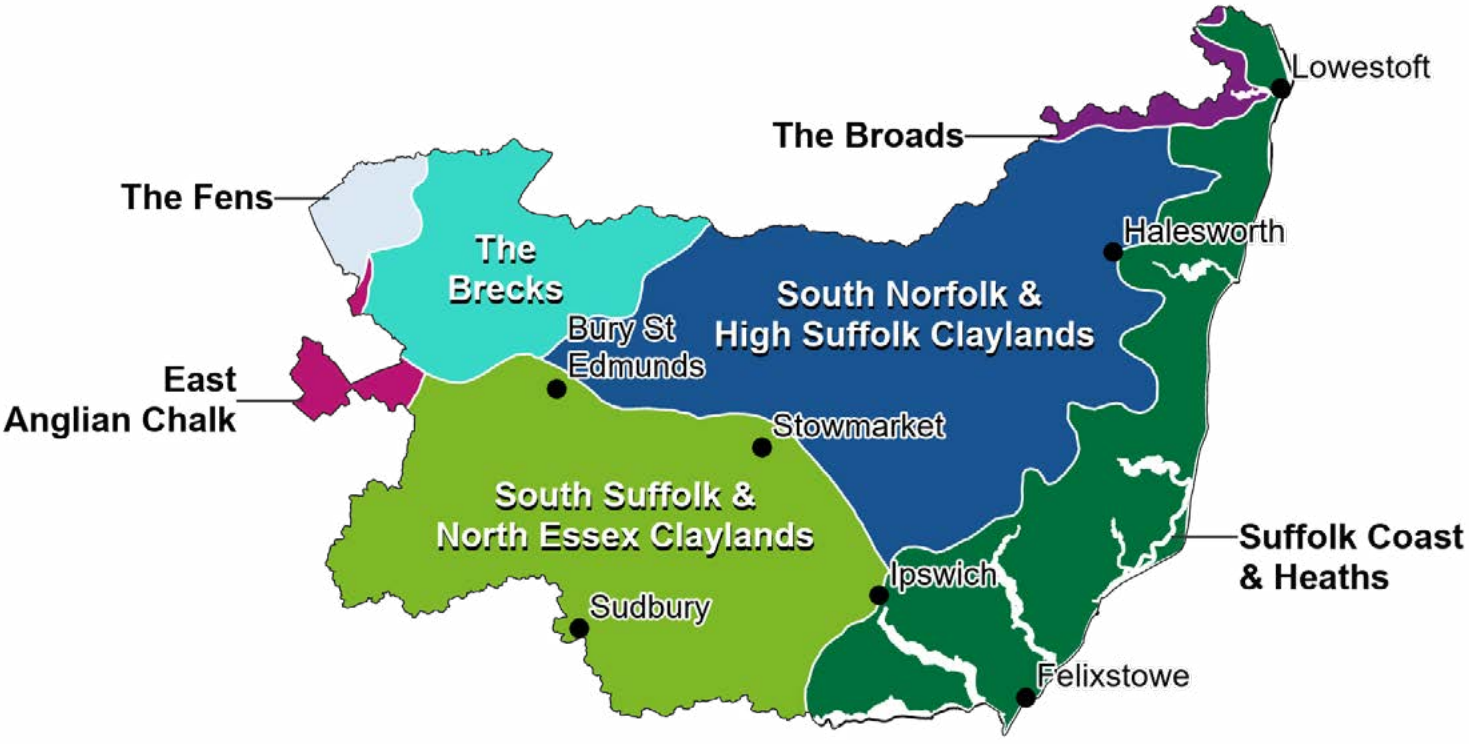
The geology underlying Suffolk's habitats

Suffolk is underlain by layers of sedimentary rock, primarily sandstone, chalk, clay and crag. In turn, this is covered with varying depths of glacial sands and gravels, estuary silts and loam-rich soil. Soils are the second largest carbon sink after the oceans. Peat is an ancient soil, formed several thousands of years ago in bog or fen habitats.

It is found in the Broads area and fens of southwest Norfolk and northwest Suffolk where it can be several metres thick. Peatlands are the largest natural terrestrial carbon store sequestering 0.37 gigatonnes of carbon dioxide (CO_2) a year globally and store more carbon than all other vegetation types in the world combined [8].

Much of Suffolk's sedimentary rocks hold water as aquifers, providing groundwater that issues out as springs and seepage for rare fen, bog and marsh habitats, and, ultimately, into the rivers. These aquifers are a precious natural resource, providing water for agriculture, industry and domestic use. The sandier soils of Suffolk have historically lent themselves to heaths and warrens, and more recently as commercial forestry or arable.

Figure 4. Map of Suffolk's National Character Areas (NCAs) highlighting distinct regions reflecting unique geographical and ecological characteristics.



Back to start of section

Suffolk's diverse landscapes host a tapestry of interconnected environments, each adding to the ecological network.

Across the strategy area, this is reflected in the range of landscape character areas as shown in **Figure 4**, which can influence the complex techniques required to manage each effectively.

This complexity becomes especially apparent in ecotones, the transitional areas where different habitats like woodlands and meadows or rivers and marshes meet. These zones are biodiversity hotspots, offering varied resources, microhabitats and opportunities that support many species.

By focusing on connectivity and the enhancement of habitats, the LNRS will support the resilience and vibrancy of local ecosystems. This approach is vital for supporting wildlife and ensuring community wellbeing, adapting effectively to environmental changes.

The historic environment
Suffolk has a rich archaeological heritage, with over 40,000 sites recorded across the county, from palaeolithic flint tools to medieval manors to Cold War military and much more. Many sites are designated due to their ecological importance and their inclusion of heritage assets – past human activity, design and land use or management mean that there can be a concentration of protected species and habitats present. This could include a wide range of features such as ancient and veteran trees, defensive or ornamental water bodies or long established woodland and grassland communities [9].

Cliffs at Covehithe reveal the geological layers below the ground's surface

Back to start of section

Suffolk's coast

From the sandy cliffs of Pakefield in the north of the county, to Brantham on the Stour Estuary, Suffolk's coast is one of England's most naturally dynamic coasts, supporting a range of wetland, saltmarsh, dune, shingle, mudflat, and soft cliff habitats. It stretches for nearly 60 miles and hosts some of the nation's most famous coastal wetland nature reserves in Benacre, Minsmere and Orfordness.

The relationship between the coast and adjacent wetlands is a delicate balancing act. To protect established and thriving communities from coastal erosion, where occasionally tens of metres can be lost in a single storm event, sea defences are erected, but inevitably shift the natural erosion forces of the sea to other areas, risking the sediment flow round our coastline. Sediment, released from coastal erosion, nourishes the barrier dunes and shingle, which, in turn, protects wetlands teeming with birds and wildlife. Thousands of waders and wildfowl feed on the pools and lagoons, bittern, marsh harrier and bearded tit make the reedbeds their home, while the beaches are a home for breeding shorebirds like ringed plover and little tern. The shingle beaches and ridges have a unique flora and are speckled with tough pioneer plants like the yellow horned-poppy in late summer.

The five great estuaries of the Blyth, Alde-Ore, Deben, Orwell and Stour are one of Suffolk's most famous natural features. Together, they represent some of the largest concentrations of inter-tidal habitat in England, home to internationally important numbers of breeding and wintering birds, and important saltmarsh habitats that help provide flood protection from the sea, in front of the low-lying floodwalls. These areas are part of the East Atlantic Flyway, the migratory route linking the Arctic to Africa, and are currently under consideration for UNESCO World Heritage status.

Species found on Suffolk's coast:

Little Tern
Sternula albifrons

Redshank
Tringa totanus

Sea Pea
Lathyrus japonicus

Yellow Vetch
Vicia lutea

Did you know?
Suffolk contains 15% of England's coastal vegetated shingle habitat. Worldwide, the vast majority of this is found in north-west Europe, Japan and New Zealand.

Back to start of section

Sand dunes, like these near Lowestoft, are an iconic feature of the coastline. As a key successional habitat they are home to many unique and important species.

Back to start of section

Coastal pressures

The Suffolk coast, measuring approximately 60 miles from Felixstowe in the south to Lowestoft in the north, faces significant pressures from climate change and human activity, threatening its unique habitats and globally important biodiversity. With average temperatures set to rise by up to 1.6°C in summer and 1.3°C in winter by the 2040s, climate change is driving significant impacts. Rising sea levels, projected to increase by 0.2–0.4 m by mid-century and potentially exceeding 1 m by 2100, directly threaten habitats like saltmarshes and mudflats, which make up 9.6% and 9% of the UK's total, respectively [10].

The region's water systems are also under considerable strain. Suffolk and Norfolk, among England's driest counties, face projections of up to a 13% summer rainfall reduction and a 5–8% winter rainfall increase by the 2040s [10,11]. These shifts, coupled with higher temperatures, could reduce freshwater flows, increase groundwater abstraction, and enable saline intrusion into marshes and estuaries, degrading habitats.

A summary of key pressures identified by regional experts is as follows:

- sea level rise due to climate change and 'post-glacial' rebound
- sea defence structures and artificial stabilisation measures change sediment deposition and affect the dynamic nature of all coastal habitat systems
- large-scale built development and infrastructure is a risk to these habitats. However when designed well, impacts can be properly mitigated and compensated
- excessive recreational pressures from visitors will continue to cause damage and disturbance to sensitive habitats and species
- climate change impacts include higher temperatures and prolonged periods of drought which, if impacts on resources are not addressed, have the potential to result in ground water abstractions_ increasing and freshwater river flows reducing. Estuaries may become increasingly saline negatively affecting the intertidal habitats. Increased groundwater abstraction may also lead to saline intrusion of the coastal marshes. Conversely, wetter winters can lead to increased flooding and impacts on surrounding habitats due to waterlogged soil
- habitat loss caused by artificial coastal defences also leads to 'coastal squeeze' which results in habitat loss, including vegetated shingle and saltmarsh
- poor agricultural practice can lead to air and water pollution which negatively impacts on coastal habitats and species
- unsustainable fisheries management can lead to a reduction in prey species for some of our important fish-eating bird species.

Despite these challenges, Suffolk's coastal landscapes also offer opportunities for restoration and adaptation to enhance biodiversity and resilience. These are explored further in **Part B: Opportunities Identified**.

Back to start of section

For further details on coastal pressures, visit The Natural Capital Evidence Compendium for Norfolk and Suffolk at: www.nsnrp.org/publications or scan the QR code.

Port of Felixstowe cranes overlooking Trimley Marshes Nature Reserve, Suffolk Wildlife Trust.

Back to start of section

An example of Suffolk's coast: The Deben estuary

One of Suffolk's five great estuaries, the Deben winds through undulating farmland and historic towns and villages, from its furthest tidal limit inland above Woodbridge to the sea at Felixstowe Ferry. Migratory fish, such as herring, bass or sea trout, fill the estuary seasonally, while it also supports non-migratory fish such as dab, flounder and mullet throughout the year. Low tide reveals an expanse of saltmarsh and wide, intertidal mud flats which provide ample feeding grounds for wintering waders and wildfowl, including important numbers of dark bellied brent geese. The sheltered estuary possesses some of the most complete ranges of saltmarsh flora in Britain.

However, despite the considerable biodiversity on the estuary, monitoring by the Environment Agency between 2015 and 2022, revealed that only one out of the ten waterbodies that flow into the River Deben meet good ecological status. The remaining water sources are failing both ecologically and for water quality. Collaboration between individuals and organisations along the length of the river and estuary are working to reverse historic habitat fragmentation, as well as adapting to the extreme weather and flood pressure caused by climate change, and improve the status of this important asset [12-14].

The river Deben at Woodbridge

Back to start of section

Suffolk's farmland

Suffolk is predominantly shaped by farming, with around 75% of land in agricultural use [11]. Arable cultivation dominates but with important areas of livestock farming, root and salad crops and horticulture. Intensification has resulted in significant changes in the farmed landscape, but remnants from earlier days remain, such as irregular patchwork of ancient hedgerows dotted with veteran trees, drove roads, old veteran trees and ponds.

Farmland is home to habitats important to many species, and its productivity is reliant on nature for many things, including pollination of crops, healthy soils and availability of clean water. Parts of Suffolk show a slower rate of decline for rare arable plants and farmland birds like turtle dove, tree sparrow and grey partridge than other areas of the UK. In Suffolk we have many great examples of how nature and farming can be successfully integrated with one another. Nationally, the 2021 farmland bird index, which is a good indicator of general biodiversity on farmland, shows that the numbers of all farmland bird species have more than halved since the 1970s.

Species found on Suffolk's farmland:

Kestrel
Falco tinnunculus

Barn owl
Tyto alba

Corn bunting
Emberiza calandra

Shepherd's needle
Scandix pecten-veneris

Agricultural land, which covers much of the county, offers huge potential for nature recovery actions through sustainable farming practices.

Back to start of section

Farmland pressures

Suffolk and Norfolk have a greater proportion of the best grades of food-producing land compared to the average for England (25.5% Grades 1 & 2 and 53.8% Grade 3 respectively, compared to 16.9% and 48.1% for England) [11]. However modern farming practices and land management techniques can impact the biodiversity and soil productivity of our farmland, and create a lack of connection with surrounding habitats.

A summary of key pressures on Suffolk's farmland include:

- **intensive farming practices**, such as use of pesticides and fertilisers, negatively impact soil biodiversity and health, as well as invertebrates, including pollinators
- **removal and/or poor management of hedgerows** removes vital habitat for many species and increases disease introduction
- **abstraction of water for irrigation practices** impacting on water availability
- **loss of traditional field margins, small copses, isolated and hedgerow trees and farmland ponds or wetlands** limits habitats and wildlife corridors that allow species to traverse agricultural land
- **removal of existing woodland areas** to increase farmland reduces biodiversity and contributes to climate change through the release of carbon dioxide
- **monocropping** and other modern farming practices such as increased specialisation diminishes plant diversity and can make crops more vulnerable to pests and diseases
- **soil erosion and degredation** due to a variety of factors including stock pressures, lack of ground cover and use of unsuitable land types for agricultural practices
- **land use change** due to increased pressure for infrastructure, development and housing
- **agricultural runoff** transports harmful pollutants and excess nutrients into waterbodies and ecosystems, which in extreme cases can create areas of low oxygen in aquatic environments. These water quality issues can pose risks to human health, particularly where pollutants affect drinking water sources or recreational waters. Additionally, certain agricultural practices, such as fertiliser storage and application can influence local air pollution, with implications for both environmental and human health. Actions to reduce these emissions present co-benefits for biodiversity and local air quality.

Suffolk's farmland can and will play a crucial role in nature recovery and increasing biodiversity. This is explored further in **Part B: Opportunities Identified**, and highlighted in appropriate case studies.

For further details on farmland pressures, visit The Natural Capital Evidence Compendium for Norfolk and Suffolk at www.nsnrp.org/publications or scan the QR code.

Back to start of section

Crop harvesting near Woodbridge demonstrates modern techniques employed to generate food from the landscape.

Back to start of section

An example of sustainable farming in Suffolk: Shimpling Park Farm

Under-sown clover growing through a crop of spring barley on Shimpling Park Farm

Taking the decision at Shimpling Park Farm to farm organically and changing the farming system over 20 years ago has resulted in healthier soils, more nature, an enlightened workforce and a more stable farming business.

Bringing herbal leys and livestock back into the system, coupled with green manures and cover cropping, has increased the soil's organic matter as well as its health.

Not using pesticides or chemical fertilisers has meant that rotations have had to be longer with the use of an increasing number of crops sown in equal measures of winter and spring cropping, which has helped to increase biodiversity on the farm as well as prevent any one pest, weed or disease from dominating.

Increased complexity has been a challenge for the owners as well as the staff at Shimpling Park Farm, meaning that they have become accustomed to change and indeed thrive on it, making the business resilient and more sustainable in times when our farmers are being asked to produce more than just food.

Back to start of section

Woodland, trees and scrub

Suffolk boasts some of East Anglia's most important remaining ancient woodland, and wood pasture with old veteran trees. This includes wet woodlands known as carrs, normally comprising alders, willows and birches, areas interspersed with old trees, and woodlands that were used for grazing. The Norfolk and Suffolk Broads hold some of the largest extent of wet woodlands in the UK.

The heavy clay soils of north and mid-Suffolk are scattered with ancient hornbeam, oak and ash woods, many with a history of active coppicing and pollarding, often linked by a network of hedgerows. Although Suffolk has over 450 ancient woodland sites, some have been reduced in size and changed to monocultural and even aged plantations with little resilience to climate change and pests and diseases. Generally the woodlands are under intense browsing pressure from increased deer (both native e.g. red deer, and non-native species such as muntjac) and squirrel numbers. Where active management has resumed, coppicing has brought structure and light to the woodland floor and ground flora and bird life has returned, creating safe nesting and perching opportunities for birds such as nightingale and warblers.

Wood pasture and medieval deer parks such as Staverton Thicks supports old veteran trees and ancient pollard, which hosts rich insect fauna, owls and other birds. Many of Suffolk's oldest trees are found in some of the county's estate parklands and large historic designated landscapes associated with stately homes such as Heveningham, Ickworth and Clare Castle.

Autumn in Tunstall Forest, a Forestry England site within the National Landscapes of Suffolk.

Back to start of section

Suffolk hosts a variety of traditional orchards, from majestic standard cherry trees gracing parklands in the south to ancient cobnut coppices, and quaint farmhouse orchards adorned with a diverse mix of fruit trees. Urban trees, often hardy species like silver birch and London plane, play a crucial role in cooling, air quality and wildlife habitat.

Scrub is a transitory stage between open habitats such as grassland and closed canopy woodland. It plays a crucial role in supporting a broad range of wildlife, providing a continued source of nectar, fruits, seeds, shelter, breeding and roosting sites.

Nightingale are summer visitors to Suffolk, for example Arger Fen and Black Bourn Valley, where scrub habitats are increasingly important, as they prefer thickets of dense blackthorn and bramble, with a margin of rough grass.

Species found in Suffolk's woodland, trees and scrub:

English oak
Quercus robur

Barbastelle bat
Barbastella barbastellus

Purple emperor butterfly
Apatura iris

Black poplar
Populus nigra subsp. betulifolia

Invasive species

Muntjac deer
Muntiacus reevesi

Grey squirrel
Sciurus carolinensis

Back to start of section

Woodland, trees and scrub pressures

Woodlands in Suffolk play a crucial role for biodiversity and recreation but they face a range of pressures that threaten their sustainability. The Forestry Commission's National Forest Inventory provides detailed information on woodlands across the country, identifying areas larger than 0.5 hectares with at least 20% canopy cover and a minimum width of 20 metres. While this dataset does not explicitly identify timber producing woodlands, categories such as conifer, young trees and recently felled areas have been used as indicators of productivity.

The Brecks is a notable example, with 27.6% of its land covered by forest, more than double the national average of 10%. Of this, 18.3% is considered productive, underlining the region's importance for timber supply, energy production from waste wood and recreation. The UK imports more than 80% of its timber, causing over-reliance of more greenhouse gas heavy materials and deforestation abroad, therefore risking unsustainable management in countries with weaker (or no) regulations. Thetford Forest, at the heart of The Brecks, exemplifies this multifunctional value, drawing 1.5 million visitors annually while supporting both commercial forestry and biodiversity [15].

Key pressures identified by regional experts include:

- climate change impacts such as extreme weather events, fire and drought affect growth patterns, water availability, and species distribution
- destruction, fragmentation and isolation of woodlands puts species at risk of local extinction as natural processes are limited, for example mobile species may be unable to migrate between locations
- deer and grey squirrel populations cause overgrazing, which reduces the regrowth of young trees
- recreational pressures create the need to balance protecting space for nature with the benefits of access to nature for people
- invasive non-native species increase competition and diseases to native species
- pests and diseases, resulting in conditions such as Acute oak decline (AOD) and Ash dieback, have surged across the UK, threatening tree populations. Novel diseases are expected to increase in future, providing further challenges for biosecurity.

While these pressures are substantial, they also create opportunities to rethink management approaches and enhance the resilience of Suffolk's woodlands, alongside urban trees and those found outside of woodlands. These opportunities are discussed in **Part B: Opportunities Identified**.

For further details on woodland, trees and scrub pressures, visit The Natural Capital Evidence Compendium for Norfolk and Suffolk at www.nsnrp.org/publications, or scan the QR code.

Back to start of section

Enjoying a Suffolk woodland – striking a balance between conservation and providing access to nature for people.

Back to start of section

An example of Suffolk's woodland, trees and scrub: Bradfield Woods

Bradfield Woods is a National Nature Reserve in West Suffolk. This ancient woodland covers 70 hectares and has a rich history of continuous traditional coppice management since 1252. Coppicing involves cutting stems at ground level to promote vigorous regrowth. Remarkably, some ash coppice stools here are believed to be over 1000 years old.

The dense, bushy growth from regenerating shoots provides cover for migrant songbirds like garden warblers and blackcaps, while mammals such as stoats, yellow-necked mice, dormice and badgers can be found here. On sunny days, the sheltered woods become a habitat for 24 butterfly species, including the elusive white admiral and purple hairstreak.

The Bradfield Woods National Nature Reserve, managed by Suffolk Wildlife Trust, contains some of Britain's finest ancient woodlands, which has been under continuous, traditional coppice management since 1252.

Back to start of section

Freshwater habitats

Freshwater habitats include rivers and streams and still waters, including ponds or lakes. All of them are rich in species biodiversity, vulnerable to human impact and contribute to natural processes, including wider environmental benefits such as flood management.

In the north of the county, the River Waveney flows eastwards as part of the Broads catchment, from its origins in the spring-fed valley fens scattered around its headwaters (**Figure 5**). As they travel seaward, the Waveney and the other east-flowing rivers, like the Hundred Stream, open into wide floodplains, on peat, silt or clay. These support a mosaic of wet grassland, reedbeds, wet woodland, coastal flood plain and grazing marsh and occasional fen habitats. They are the drainage axis for much of Suffolk's hinterland.

Suffolk's chalk, such as the Little Ouse and Lark, make up some of the 39 streams feeding into the River Ouse. These flow westwards through The Brecks with adjoining wetlands and heathland habitats and eventually into the Fens. They are fed by the chalk aquifer with clear, mineral-rich water and provide a habitat for species such as the globally endangered white-clawed crayfish and the critically endangered European eel.

The low-lying landscape and shallow river gradients mean that saltwater often penetrates upstream, and flooding can occur when freshwater is 'locked' upstream on high tides, or barred by barrier beach sediments, although this is an entirely natural process.

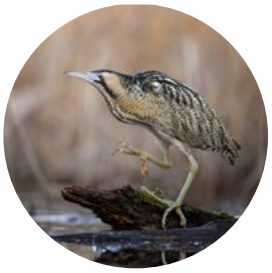
The frequency of these events is increasing with sea-level rise due to climate change. The main rivers themselves, especially the Stour, Gipping, Deben, Alde, Blyth, Lark and Waveney support increasingly broad floodplains towards the sea. Some of the broader river valleys, like the Lark in the west of the county, have historically been dug in their lower reaches for gravel and minerals, and the resultant man-made lakes are often rich in bird and other aquatic life.

The tributary streams feeding the main rivers and estuaries often support an intricate linear mix of wet woodland, scrub, grazing meadows, ponds and ditches within the farmed countryside. Suffolk has 22,000 farmland and village ponds; however, many of these require restoration to reinstate their ecological value.

Species associated with Suffolk's freshwater:

Water vole
Arvicola amphibius

Frogbit
Hydrocharis morsus-ranae

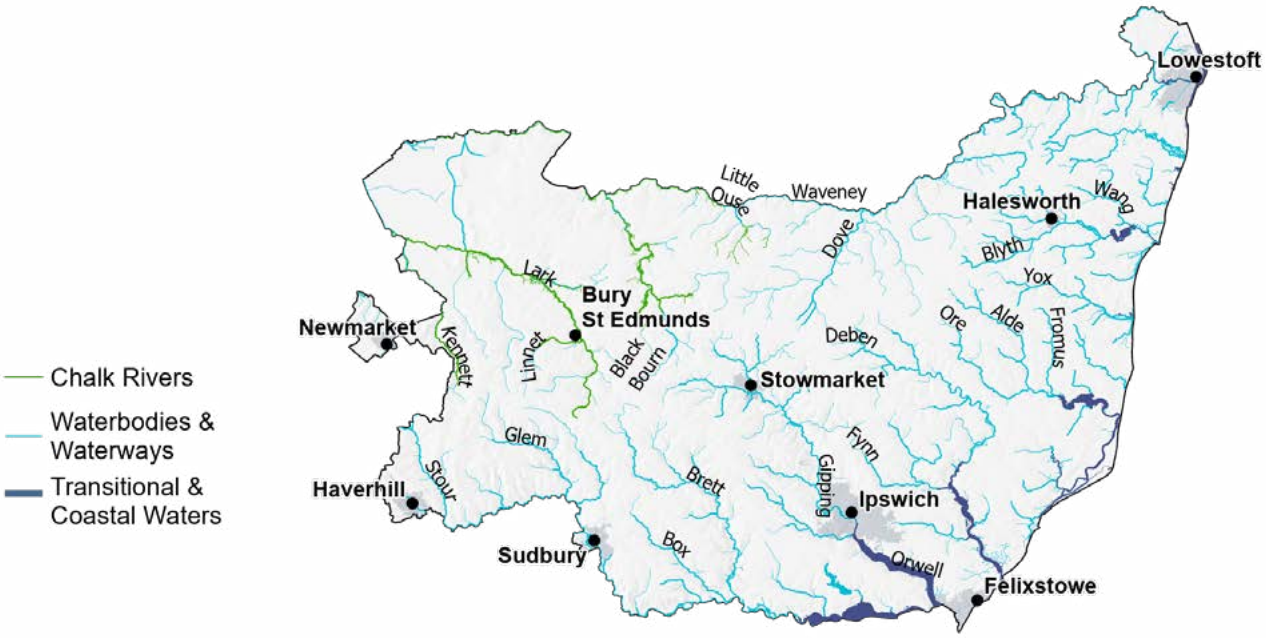


Bittern
Botaurus stellaris

Great crested newt
Triturus cristatus

Back to start of section

Figure 5. Map of Suffolk's waterbodies and rivers.



Did you know?
85% of the world's precious chalk streams are found in England, and Suffolk is home to some fine examples of these, such as the Rivers Lark and Little Ouse

The River Waveney flows through east Suffolk, here passing by Wainford

Back to start of section

Freshwater pressures

Freshwater systems in Suffolk face mounting pressures that threaten ecological integrity and vital services. The Water Framework Directive creates an understanding of the quality of freshwater streams, rivers and lakes called water bodies. Surface water quality is a key concern, with few achieving 'good ecological' status under current assessments. The majority are classified as 'moderate', based on indicators for the biological and physical factors assessed. While some improvements are noted, many others have seen a decline or no change. Groundwater quality is also under strain, with the Environment Agency identifying 'poor' status across nearly all of Suffolk due to diffuse pollution from agriculture, urban runoff, and point-source contaminants like sewage household chemicals such as domestic pesticide treatments and industrial discharges [16, 17].

Flood risk is another significant pressure, with over 11% of Suffolk and Norfolk rated by the Environment Agency as being at risk of at least a 1 in 100-year flood event. This risk is pronounced in key areas such as the Broads, coastal margins, and freshwater wetlands. Additionally, water availability is a pressing issue in East Anglia, the driest region in the UK. Demands for limited water resource - agriculture, public supply, business and environmental need - are exacerbated by projections of a regional net water deficit at 200 million litres per day by 2050. Chalk rivers, globally rare ecosystems that support distinctive species, are particularly vulnerable, with nearly 17% of England's chalk rivers located in the region. Many of these chalk rivers are already in 'poor' or 'bad' condition due to pollution, abstraction, sedimentation, and invasive species [16, 17]. The regions important peatland and wetland habitats are also impacted by the risk of drying out.

Key freshwater pressures identified by regional experts include:

- high level and uncontrolled excessive water abstraction which contributes to low river flows and groundwater input to sensitive wetland habitats
- surface and groundwater flood risk linking to impacts on communities
- physical modification of rivers, including dredging, installation of barriers and lowering riverbeds and confining them to specific channels for flood defence, drainage, navigation, or other purposes
- pollution from the air and the land and of all forms, including sewage, forever chemicals and plastics
- invasive non-native species which increase competition and diseases to native species, while also contributing to the degredation of physical habitats (for example signal crayfish can significantly disrupt ecosystems). These impacts are particularly severe in wetland habitats, which also face pressure from increasing deer populations
- climate change which increases water stress within wetlands and affects freshwater species distribution and land management practices
- habitat loss from infilling of ponds, including from lack of management

Back to start of section

- increasing salination as more saltwater encroaches upstream into areas of fen habitat or Broads along tidal sections, with potential higher impact than in coastal habitats recreational pressures in terms of the need to balance protecting space for nature with the benefits of access to freshwater habitats.

These challenges highlight the need for innovative approaches to restore and enhance Suffolk's freshwater ecosystems. Opportunities to strengthen habitat resilience and improve water management are discussed further in **Part B: Opportunities Identified**.

For further details on freshwater pressures, visit The Natural Capital Evidence Compendium for Norfolk and Suffolk at: www.nsnrp.org/publications or scan the QR code.

The waters of the River Lark, a classic chalk river, flows through modified channels in Bury St Edmunds.

Back to start of section

Grassland and heathland

The Suffolk coastal fringe supports an extensive network of pre-enclosure heath, warrens and commons. Together, these make up some of England's largest remaining areas of lowland heath. They are often embedded in the landscape alongside wetlands and estuaries, such as at Dunwich and Minsmere, or forestry and arable farming, such as at Tunstall.

Suffolk's meadows, once a part of every farm, are woven into our cultural fabric. These flower-rich expanses developed alongside humans due to livestock grazing and cutting for hay. The west of the county is home to areas of calcareous grassland due to the underlying chalk soils and, in the Brecks, these are often found close together in mosaics with acid grasslands due to the unusual geology of the area. It is estimated that more than 97% of the UK's species-rich grassland has been lost since 1930 and, in Suffolk, such habitat is generally confined to highly fragmented areas and marginal land, such as roadside verges.

Species found on Suffolk's grassland and heathland:

Heather
Calluna vulgaris

Nightjar
Caprimulgus europaeus

Silver-studded blue butterfly
Plebejus argus

Woodlark
Lullula arborea

Did you know?
Between the Brecks and the Sandlings, Suffolk supports over 25% of England's acid grassland habitat.

Back to start of section

The dry grassland at Carlton Marshes, managed by Suffolk Wildlife Trust, is highly important for biodiversity as they provide habitat for a wide range of plant and animal species

Back to start of section

Grassland and heathland pressures

Grasslands and heathlands in Suffolk are habitats of international significance but face many pressures threatening their survival. Calcareous grassland is found on shallow, lime-rich soils, neutral grassland on clay and loamy soils, and acidic grassland on sands, and gravels. Found on predominantly nutrient-poor, sandy soils, these habitats are home to a vast range of plants such as heathers, gorse, wildflowers and grasses adapted to their specific conditions.

Lowland heath and dry acid grasslands are now rare, making up just 0.5% of England's land area. However, Suffolk, along with Norfolk, holds a disproportionately large share of these habitats, including 8.4% of England's lowland heath and 27.7% of its dry acid grasslands. Much of this is concentrated in the Brecks and Suffolk & Essex Coast & Heaths National Landscape, highlighting their importance locally and nationally [11].

These ecosystems are highly vulnerable to human activity and environmental change. Fragmentation from historical habitat loss has reduced these habitats to small, isolated patches, making them more prone to degradation. Nutrient runoff from farmland and deposition from air pollution alters species composition, encouraging grasses that outcompete flowering plants and reducing biodiversity. Rising temperatures and frequent droughts linked to climate change further shift species dynamics and increase summer fire risks, which can permanently alter habitat structure. These pressures demand urgent action to safeguard the region's grasslands and heathlands.

Key pressures identified by regional experts include:

- disturbance susceptibility being impacted by site access due to species sensitivities
- high nutrient runoff and atmospheric pollution from farmland and infrastructure respectively, affects vegetation and can alter habitat composition (eg by encouraging more grass growth which outcompetes flowering plants)
- over or under-grazing or mechanical management impacts habitat structure
- summer wildfires change vegetation structure and composition following the fire
- habitat loss and fragmentation from housing development, road development, agriculture, forestry. For example, nationally, 85% of heathland and 96% of lowland hay meadows have been lost over the last 150 years and only 8% of Sandlings' heaths remain, affecting connectivity
- under-management and neglect: these sites may decline (abandonment or poor maintenance) due to under-investment, leading to adverse effects on the surrounding natural environment
- climate change can lead to changes in species composition (linked to changes in hydrological conditions, more frequent droughts, warmer temperatures causing grass species to become more dominant or allowing invasive species to establish and due to higher temperatures, a higher frequency of fires).

Back to start of section

Addressing these pressures requires focused efforts to restore and enhance Suffolk's grasslands and heathlands and strategies to achieve this are discussed in **Part B: Opportunities Identified**.

For further details grassland and heathland pressures, visit The Natural Capital Evidence Compendium for Norfolk and Suffolk at www.nsnrp.org/publications or scan the QR code.

The Brecks – a rare and vital habitat, home to unique wildlife and in need of continued care to thrive.

Back to start of section

An example of Suffolk's grassland and heathland: Suffolk Sandlings

The Suffolk Sandlings is an area of light sandy soils in south-east and east Suffolk, formed from material washed out from the ice sheet during the last ice age, between 10,000 - 70,000 years ago. This unique landscape, once dominated by woodland, now hosts a rare wildlife habitat - heathland, which has a unique flora and fauna. However, the extent of this habitat has declined by 70% in the last century alone, and 86% since the mid-1700s, making its protection and enhancement crucial [18].

In recent decades, efforts have been made by farmers and conservation bodies around these places to restore the former heaths where they had been previously reclaimed for forestry or arable farming. This is starting to reduce the fragmentation, as former sandy and poor, marginal arable fields are restored to grass and heath.

The frost covered Upper Hollesley Common provides vital habitat for a variety of species throughout the year.

Back to start of section

Urban and built environment

By English standards, Suffolk is still a relatively rural county. However, our built environment provides an important part of our natural heritage, not least for the habitats and species it supports. Crucially, it brings nature close to where people live in Suffolk's many towns and villages, allowing them to access and connect with the green and blue spaces which support physical activity, mental wellbeing and community cohesion, especially in denser urban neighbourhoods.

Among our more urban areas, Ipswich has the Orwell estuary on its doorstep, the Gipping River corridor, heathlands on its eastern fringes, and impressive parkland open spaces like Christchurch and Orwell Country Park, bringing nature in and around the town centre. However access to these spaces is unequal, some neighbourhoods are underserved which can exacerbate health inequalities. Improving connectivity through green corridors and better links to green spaces and parks can help to address this imbalance.

The habitats of Carlton Marshes, Belton Forest and Fritton Lake are all close to Lowestoft, while the town itself supports green spaces and Oulton Broad, a reminder of the town's position at the seaward end of a former Broads estuary. Many of our historic market towns such as Bury St Edmunds, Sudbury, Stowmarket, Halesworth and Bungay are located along rivers, crucial arteries connecting nature and people throughout the county. Finally, Newmarket and the surrounding areas, known as the headquarters of British horse racing, offer potential for habitat creation.

Foxes, hedgehogs and starlings are prime examples of urban species, but there are also more endangered species such as swifts, utilising the skies above our towns and villages in the early summer.

Weaving nature into high quality design for housing, road, rail and energy infrastructure projects helps create nature rich places. When combined across the county, private gardens are larger than our National Nature Reserves, so have great potential to help recover nature, from window boxes to stepping stone ponds and mini-meadows. Our public spaces, parks, street trees and road verge grasslands and hedgerows can also be utilised for people and nature when managed well. By closing gaps in access and ensuring inclusive design, every community in Suffolk can benefit from natures health, social and ecological assets, from wildlife friendly management of community green spaces to tree planting.

Open Mosaic Habitat (OMH) on previously developed land, such as former industrial estates, mineral extraction sites and disused areas, is playing a role in our ecosystems as some species adapt to living in our more urbanised areas. OMH is a very rare habitat, often overlooked, under recorded and undervalued as sites are often of importance for invertebrates and successional species.

Back to start of section

Species found on Suffolk's urban and built environment:

Hedgehog
Erinaceus europaeus

House Sparrow
Passer domesticus

Swallow
Hirundo rustica

Swift
Apus apus

Urban parks, such as Christchurch Park in Ipswich, offer great opportunities for urban-based nature recovery action as well as providing access to green space.

Back to start of section

Urban and built environment pressures

In 2021, Suffolk had a population of 760,688, (**Figure 6**) which is projected to increase to 828,710 by 2043. Just under 20% of this population resided in the urban area of Ipswich, with the total urban population being approximately 60% of the total population [19-21]. Heavy human activity in urban areas can impact local wildlife and biodiversity.

Key pressures identified by regional experts on habitats and species in urban areas include:

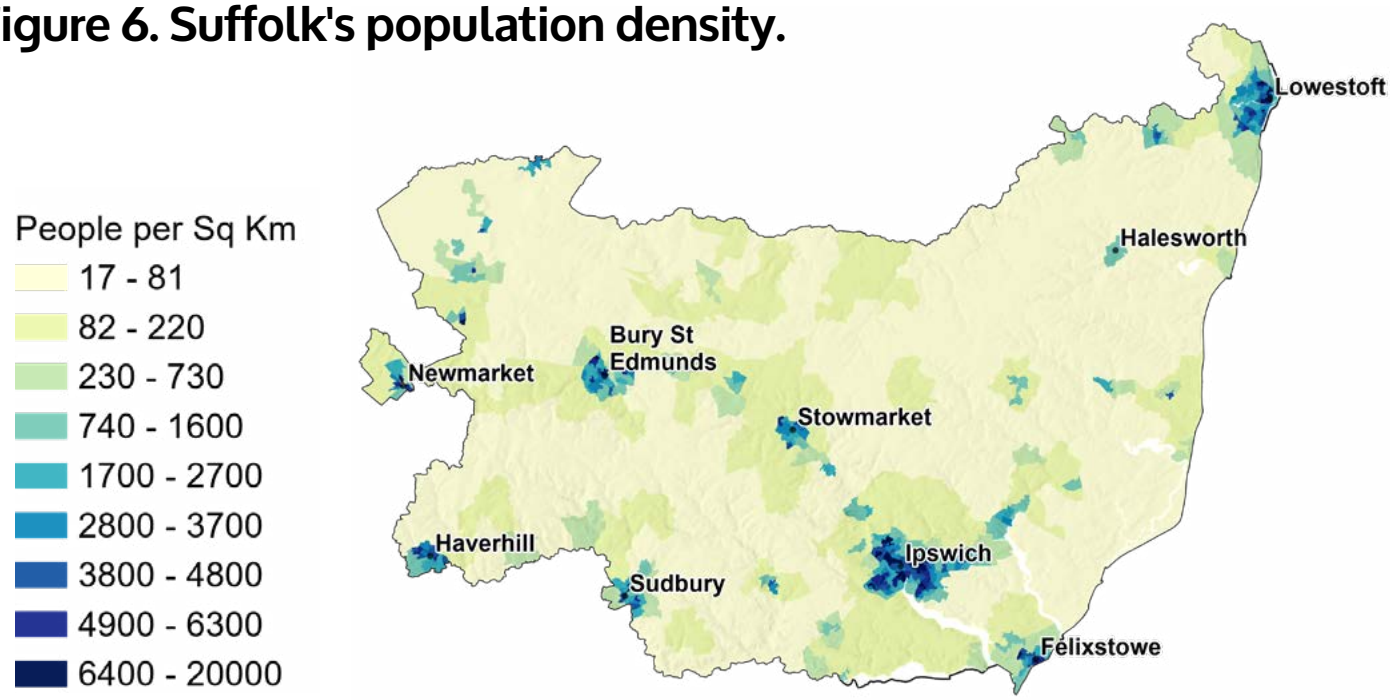
- urban expansion often leads to the destruction and fragmentation of natural habitats and increasing competition for resources such as water and food, making it difficult for species to survive and thrive
- urban regeneration using brownfield sites due to their value as biodiverse habitats
- garden design features and practices such as solid fencing and use of chemical treatments
- air, water and soil pollution caused by transport, construction and other infrastructure in urban areas, can harm wildlife and degrade natural habitats
- heat islands - urban areas which are warmer than their rural surroundings - due to human activities and infrastructure, which can stress local flora and fauna
- invasive species can be more prevalent in urban environments, which can outcompete native species and disrupt local ecosystems
- artificial light and noise from urban areas can interfere with the natural behaviours of wildlife, such as migration, reproduction and feeding.

There are multiple opportunities for individuals and communities to reduce these pressures in urban and built environments and potential measures to achieve this are discussed in **Part B: Opportunities Identified**.

For further details on urban and built environment pressures, visit The Natural Capital Evidence Compendium for Norfolk and Suffolk at www.nsnrp.org/publications or scan the QR code.

Back to start of section

Figure 6. Suffolk's population density.



Busy roundabouts increase artificial light and noise which can interfere with the natural behaviours of wildlife

Back to start of section

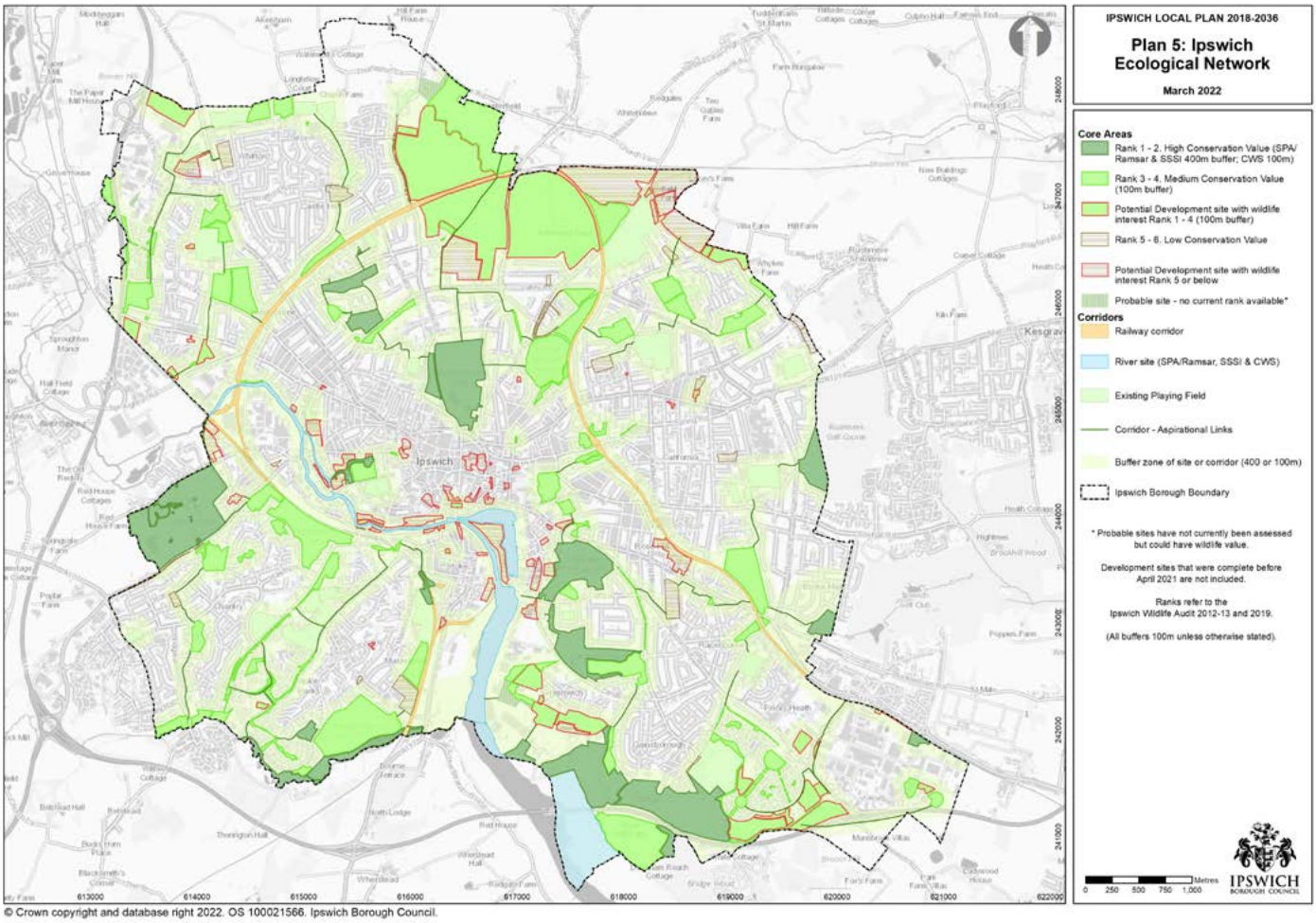
An example of nature recovery in a developed area: Ipswich Greenways

“Knowing what natural resource we had was the logical first step in the long journey of trying to maintain and enhance the biodiversity value of the town.”

The Ipswich Ecological Network Map was created in 2014 following detailed site surveys of every significant green space in the town by Suffolk Wildlife Trust. The map shows all the ‘core sites’ (parks, nature reserves, allotments etc), along with corridors linking them together. Within the Local Plan context, the sites and corridors have a policy to protect corridor function and encourage enhancement through any developments.

The map clearly shows the vital importance of private gardens along with school grounds, business premises and smaller public green spaces – and it has highlighted the importance of working in partnership with other organisations and individuals to achieve as many wildlife benefits as possible. The Ipswich Borough Council Parks Service and Greenways Countryside Project have used the network map to focus resources and encourage public participation. Many ‘Wildlife Homes’ events, in partnership with Ipswich Wildlife Group, have allowed local people to make bird boxes, bug hotels, hedgehog houses and other ‘biodiversity features’ to take home to put in their gardens – with the idea that all the small efforts made by lots of people gradually, yet significantly, improve the diversity and value of the network.

Back to start of section



The Ipswich Ecological Network Map.

Back to start of section

Distinct areas: The Broads

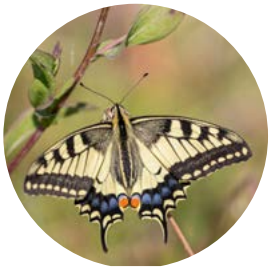
The Waveney Valley, to Bungay, forms the southern arm of the Broads National Park, one of Britain's most famous and biodiverse wetlands. The Waveney (and Little Ouse heading east) defines the boundary between Suffolk and Norfolk, linking with a network of tributary rivers through much of north Suffolk. The area supports a diverse patchwork of peat fens, reedbeds, wet woodlands and wet grasslands. The marshes of the lower Waveney floodplain support large wetlands, many now being managed at landscape scale and enhanced for wildlife.

Rare and threatened species such as fen raft spider, water vole and bittern are the subject of intense conservation action, and the recovery of the bittern and marsh harrier from near extinction are two recent species recovery success stories.

But the Broads are also an important economic resource and the area is under intense pressure, from recreational use, water quality and demand, flooding, drought, wildfires and the necessity to respond to sea level rise and climate change.

Find out more by visiting
www.broads-authority.gov.uk

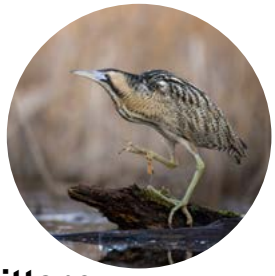
Species found in The Broads:



Swallowtail
Papilio machaon

Little whirlpool ramshorn snail
Anisus (Disculifer) vorticulus

Fen orchid
Liparis loeselii



Bittern
Botaurus stellaris

Marsh harrier
Circus aeruginosus

Common crane
Grus grus

Herrinfleet Mill on the Suffolk Broads

Back to start of section

Distinct areas: The Brecks

Straddling the border between Suffolk and Norfolk, The Brecks is one of England's most biodiverse regions. The landscape is one of the driest parts of England, but supports an incredible mosaic of woodland, heathland, rivers, wetlands and farmed land. The region is home to an incredible 2,149 priority species many of which are nationally rare, scarce, or threatened and of which the Brecks supports all or a large part of what remains. This includes rare birds of forest and open country such as stone curlew, woodlark and nightjar, and many rare plants of heath and cultivated land.

The Brecks' conifer woods, planted for commercial purposes in the twentieth century, have become a distinctive part of the landscape. However, the open heath areas are now limited and are mostly found within protected areas. This situation persists despite efforts to create corridors of these habitats through forest management.

The Brecks' unique natural features include meres that have changing water levels due to their connection to the chalky underground rock.

Equally fascinating are pingo ponds, formed from the freeze-thaw cycles of past glacial periods, creating distinctive pools and chalky ridges that support grassland plants. These are now key habitats for breeding amphibians, including the northern pool frog, which became extinct in the UK at the end of the twentieth century but has been re-introduced at two Brecks sites in Norfolk.

Species found in The Brecks:

Stone curlew
Burhinus oedicnemus

Woodlark
Lullula arborea

Nightjar
Caprimulgus europaeus

Creeping marshwort
Apium repens

Spring speedwell
Veronica verna

Adder
Vipera berus

Find out more by visiting www.brecks.org

Back to start of section

Protected landscapes

Suffolk is home to the distinct areas of the Broads National Park and the Brecks. These are complemented by our National Landscapes: Dedham Vale and the Suffolk & Essex Coasts & Heaths. Combined, the Broads and the National Landscapes are considered a Protected Landscape within the UK, and hold a unique and significant position ecologically and culturally.

15% of the land across England is designated as a National Landscape, with 66% of people living within half an hour's journey time to one of these areas [47]. These were previously known as Areas of Outstanding National Beauty, or AONBs.

The Suffolk National Landscapes also benefit from their own, specifically produced, management plans, avaliable on the Suffolk & Essex Coast & Heaths website and the Dedham Vale website.

Dedham Vale National Landscape

The Dedham Vale National Landscape and Stour Valley encompasses one of the counties most treasured landscapes. This distinctive lowland landscape, overlapping the Suffolk–Essex border, is characterised by picturesque villages, rolling farmland, rivers, wildflower meadows, ancient woodlands, which provide homes for a variety of local wildlife. With much of East Anglia's traditional grassland lost to drainage and arable farming, the hedgerows and meadows of the Dedham Vale stand as some of the most precious, but vulnerable, pastoral habitats in the country.

Covering 90 square kilometres, the designated National Landscape stretches upstream from Manningtree to within a mile of Bures. Less than 10,000 people live within the area and, whilst

Back to start of section

it remains a predominantly agricultural area, increasing numbers of residents are commuting to Ipswich, Colchester and London for work. Tourism is localised but vital to the economy, while the River Stour is an important for boating and angling water [48].

Suffolk & Essex Coasts & Heaths National Landscapes

The Suffolk & Essex Coast & Heaths National Landscape is a low-lying coastal landscape of astonishing variety, stretching from the Stour estuary in North Essex, up to Kessingland in North Suffolk, covering 403 square kilometres [49].

The landscape encompasses a unique mixture of shingle beaches, crumbling cliffs, marshes, estuaries, heathland, forests, and farmland. Its picturesque countryside, towns and villages have an unspoilt and tranquil atmosphere, with a very distinctive 'Suffolk' character. Visitor activity is centred around the medieval market town of Aldeburgh and other coastal towns and hamlets such as Woodbridge, Southwold and Walberswick.

The Suffolk & Essex Coast & Heaths is also one of the most important wildlife areas in Britain, encompassing three National Nature Reserves, many Sites of Special Scientific Interest and the RSPB's Minsmere Reserve. The mudflats and creeks of the Stour, Deben, Blyth, Ore and Alde estuaries contain wildlife wetland sites of national and international importance, whilst the wild, sandy stretches of ancient open heathland such as the Sandlings are a refuge for nightjar, woodlark, and rare heath butterflies.

Back to start of section

Conserving the Brecks: The Brecks Fen Edge and Rivers landscape partnership

The Brecks is landscape spanning 393 square miles across Suffolk and Norfolk. One of the driest UK habitats, the Brecks has both sandy and chalky soil, lowland forest, acid grasslands and heathlands, and riparian corridors, creating an important and ecologically diverse habitat. Between 2020-2024, the landscape has been the focus of the Brecks Fen Edge & Rivers Landscape Partnership Scheme (BFER).

Who's involved?

BFER is funded by the National Lottery Heritage Fund (NLHF) and hosted by Suffolk County Council.

BFER has worked in partnership with regional, national, and local organisations to conduct a core programme of projects across the Brecks.

Norfolk Rivers Trust (NRT) (with match funding from organisations including Coca Cola and the Environment Agency) have conducted assessments and interventions of riparian farmland across the Brecks to protect the rivers. These have included preventing negative run-off, and soil erosion.

The River Lark Catchment Partnership (RLCP) is a volunteer led charitable organisation. RLCP have carried out restoration work in the River Lark, with the support of BFER, Bury Trout Club, the Environment Agency, the Lark Angling Preservation Society, and the Wild Trout Trust.

What have they achieved?

Farm Intervention Work

Through BFER, NRT have conducted 14 interventions on farmland within the catchment of the rivers Little Ouse, Thet, Lark, and Wissey. Completed interventions in tributaries of the Lark and Little Ouse have significantly reduced sediment and nutrient input. Fencing installed alongside the Wissey has allowed for conservation grazing to resume at a county wildlife site, which was previously losing habitat and species diversity due to lack of grazing.

River Restoration Work

Through BFER, RLCP have improved the morphology and habitat quality of sections of the River Lark. 1.8km of habitat works were conducted by 89 RLCP volunteers via work parties, improving the natural sinuosity of stretches of the river that had been historically canalised for industrial use. This has improved natural flow and ecological quality, supported priority species, and created new spawning areas for fish.

Back to start of section

How do they do it?

Farm Intervention Work

- Working relationships with landowners developed through farm visits
- Flooding, excess sediment, and field run-off addressed with silt traps and holding ponds
- Soil erosion prevented in areas left bare by late harvesting crops, using maize under sowing.

River Restoration Work

- River flow characteristics and channel morphology re-established with installation of log deflectors, brash bundle shelving, and gravel riverbed augmentation
- Invasive species such as Himalayan balsam surveyed and removed
- Riparian planting conducted using coir matting
- Citizen science volunteer training provided to upskill and provide legacy.

What's next?

A Suffolk and Norfolk farm advisors' network has been established, with monthly meetings allowing for information sharing and future support.

RLCP will continue with volunteer river restoration work on the Lark, including aquatic planting, and will support the National Chalk Stream Recovery Strategy.

Find out more by visiting
www.brecks.org/bfer

Aerial photograph demonstrating river restoration improvement works (right) carried out by RLCP on a historically canalised section of the River Lark at Fullers Mill.

Back to start of section

Recreational pressures in Suffolk

Tourism is vital to Suffolk's economy, significantly contributing to local income and employment. However, alongside local activity, it can also bring substantial recreational pressures, particularly in sensitive areas like the Broads, the Brecks, and coastal sites. In 2023, Suffolk received 37 million visits, generating a total tourism value of £2.13 billion, with day trips comprising the majority at 35.34 million visits and £1.17 billion in value [19].

The Broads National Park

The Broads National Park remains a key attraction, offering opportunities for boating, hiking, and wildlife-watching while significantly contributing to the local economy. With 120 miles (200 kilometers) of waterways and 13 broads open to navigation, this unique wetland landscape, home to a rich variety of species, attracted 7.6 million visitors in 2022, generating an economic impact of £711 million. However, heavy recreational use brings challenges, with peak-season visitor footfall leading to soil compaction, bank erosion, and disturbance to nesting birds.

Waterborne vessels can also create disturbance and bank erosion. The areas population and tourism growth requires improvements in waste water treatment to further improve the water quality of Broadland rivers. Water pollution, increasing nutrient levels and associated promotion of algal blooms can all have a negative impact on other species.

In addition, rising water levels, frequent droughts and increasing levels of salination pose additional threats to this fragile ecosystem, highlighting the need for sustainable management.

The Brecks

The Brecks, with its fragile sandy soils and rare heathland habitats, is another area under strain. This region's popularity for walking, cycling, and exploring historical sites brings challenges. Pathway erosion and habitat fragmentation threaten biodiversity, while under-regulated access disturbs sensitive species. Spanning the Suffolk-Norfolk border, collaborative management between the two counties is essential to safeguard its ecosystems. The Brecks Fen Edge & Rivers Landscape Partnership Scheme has initiated several successful projects and management schemes, demonstrating the importance of cross-border collaboration.

The Suffolk Coast

In 2023, Suffolk's coast attracted approximately 4.62 million visits, generating £140 million in spending [20]. However, this sustained popularity exerts significant environmental pressures. High visitor numbers can lead to increased disturbance pressures on important sites for nature, with negative impacts from disturbance, sometimes by dogs off leads, on ground nesting birds or birds feeding at the waters edge of estuaries. Where visitors stray from publicly accessible areas there can be problems of soil compaction, trampling of vegetation and further disturbance. Additionally, sea-level rise exacerbates these challenges, threatening natural habitats and coastal infrastructure.

Back to start of section

Key recreational pressures

High visitor numbers, especially in peak-season, can cause soil compaction, habitat degradation, and erosion in sensitive areas. Human activity disrupts nesting, visiting and overwintering birds, seals, and other species, causing wildlife disturbance at key lifecycle points. Recreational activities increase nutrient loads in water, causing harmful pollution. Overuse of pathways and open spaces fragments habitats, threatening biodiversity and connectivity.

Boats on the Suffolk Broads boost tourism and the local economy but pose challenges like pollution and habitat disturbance.

Back to start of section

Biological pressures

Invasive non-native species outcompete native wildlife, altering habitats and disrupting ecological balance. In Suffolk, this includes addressing invasive plants (including pests or diseases affecting plants), invertebrates, fish, mammals, the most significant of which are listed below in **Figure 7**. Monitoring, habitat restoration, prevention are essential, with collaborative actions key to protecting biodiversity. Additional challenges are expected with changing conditions that could allow new species and diseases to thrive. Early warning of these will be important to ensure appropriate management is in place.

Figure 7. Invasive non-native species and significant pests and diseases

Vascular Plants

Floating pennywort
Hydrocotyle ranunculoides

Parrot's feather
Myriophyllum aquaticum

Himalayan balsam
Impatiens glandulifera

Japanese knotweed
Fallopia japonica

Vascular Plants

Giant hogweed
Heracleum mantegazzianum

Rhododendron
Rhododendron ponticum

New Zealand pigmyweed
Crassula helmsii

Pirri Pirri Burr
Acaena anserinifolia

Vascular Plant Pests

Oak processionary moth
Thaumetopoea processionea

Eight Toothed Spruce Bark Beetle
Ips typographus

Vascular Plant Diseases

Acute oak decline
Multiple pathogenic agents

Ash dieback
Hymenoscyphus fraxineus

Back to start of section

Vascular Plant Diseases

Sooty Bark Disease
Cryptostroma corticale

Phytophthora
Various species

Sweet Chestnut Blight
Cryphonectria parasitica

Invertebrates

Quagga mussel
Dreissena bugensis rostriformis

Invertebrates

Zebra mussel
Dreissena polymorpha

Signal crayfish
Pacifastacus leniusculus

Killer shrimp
Dikerogammarus villosus

Chinese mitten crab
Eriocheir sinensis

Fish

Top mouth gudgeon
Pseudorasbora parva plantarius

Wel's catfish
Silurus glanis

Grass carp
Ctenopharyngodon idella

Gold fish
Carassius auratus

Mammals

American mink
Neovison vison

Chinese water deer
Hydropotes inermis

Muntjac
Muntiacus reevesi

Grey squirrel
Sciurus carolinensis

Back to start of section

Areas of Particular Importance for Biodiversity

To consider where ambitious nature recovery measures can take place, the locations of the locally, nationally and internationally important and diverse habitats that make up the ecological network across Suffolk need to be established. This is achieved within this strategy by creating a single map, identified as the Areas for Particular Importance for Biodiversity (APIB) map (**Figure 8**). This acts to provide a framework of core sites to help identify locations and opportunities for targeting creation of new habitat, or improving, expanding and linking the existing areas. The specific sites included in the map are described below.

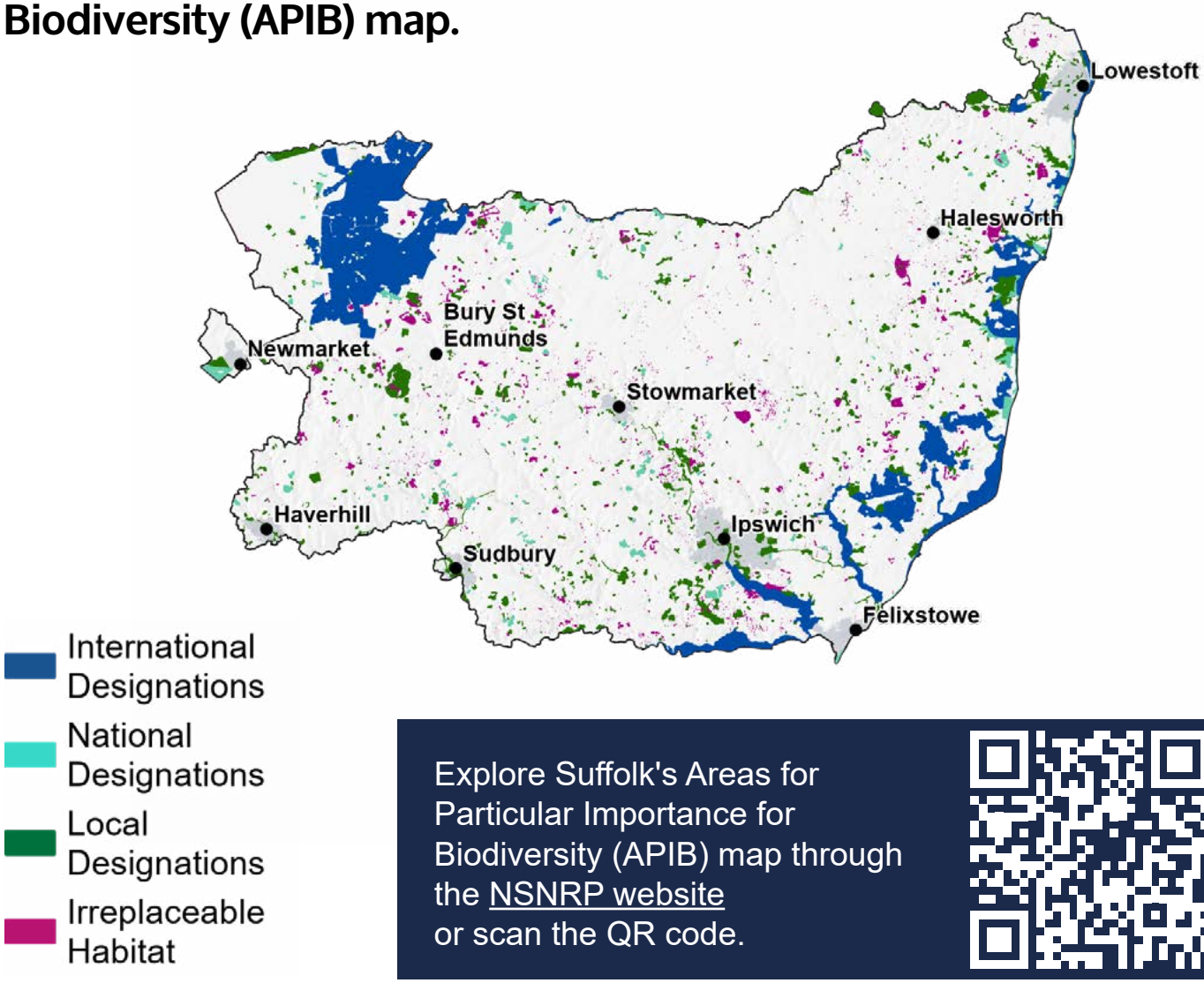
Internationally designated sites

Special Protection Areas (SPA)

SPAs are protected areas in the UK, designated under the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales.

They are areas with the most important habitats for rare and migratory birds within the UK. Alongside SACs they form part of the UK's national site network.

Figure 8. Suffolk's Areas for Particular Importance for Biodiversity (APIB) map.



Explore Suffolk's Areas for Particular Importance for Biodiversity (APIB) map through the NSNRP website or scan the QR code.

Back to start of section

Special Areas of Conservation (SAC)

SACs are protected areas of habitats and species listed within international conventions to which the UK Government is a signatory. They provide protection for types of species and habitat most in need of conservation at an international scale.

In England SACs are classified under the Conservation of Habitats and Species Regulations 2017 (as amended), and contribute to the UK's national site network alongside SPAs.

There are both inland and marine SACs around Suffolk.

Ramsar Sites

Ramsar sites are areas of internationally important wetlands designated under the Ramsar Convention [22]. In Suffolk, there is significant overlap between Ramsar sites and SPAs, as many of the wetland sites are protected because of their importance to water birds.

Nationally designated sites

National Nature Reserves (NNR)

NNRs protect nationally important habitats, species and geology across the country, whilst allowing public access and research and monitoring opportunities.

NNRs are managed to high standards for nature by Natural England and its partner organisations, and have legal protections designated under the National Parks and Access to the Countryside Act 1949, Wildlife and Countryside Act 1981 (as amended and the Countryside and Rights of Way Act 2006.

Sites of Special Scientific Interest (SSSI)

SSSIs are protected areas which contain specific features - either biological or geological - of particular interest to science. These features of interest can range from specific species all the way to whole landscapes of national importance.

Natural England are the responsible authority for designating and monitoring SSSIs, which are protected under the Wildlife and Countryside Act 1981.

Local wildlife sites

Local Nature Reserves (LNR)

LNRs are locations of special local interest for biodiversity (or in some cases for geological features). They also offer public access, making them important sites for both people and nature.

LNRs are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949, designated by local authorities.

County Wildlife Sites (CWS)

CWS are designed to protect the most important areas for wildlife which are not covered by national designations. Suffolk's network of CWS is designated through a partnership, chaired by the Suffolk Biodiversity Information Service (SBIS).

Back to start of section

There are over 900 CWS in Suffolk, ranging in size from single ponds to large areas of woodland. They provide vital refuges for wildlife and stepping stones between other areas of habitat. Most are privately owned and managed and the majority are not accessible to the public.

Irreplaceable habitats

Certain types of habitat would be very difficult (or take a long time) to restore, recreate or replace once destroyed, due to factors such as their age, uniqueness, diversity or rarity. Irreplaceable habitats have specific consideration under the National Planning Policy Framework and legal protection under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations: 2024 [6, 23].

Irreplaceable Habitats in Suffolk are:

- ancient woodland
- ancient and veteran trees
- coastal sand dunes
- lowland fen
- coastal saltmarsh (Spartina saltmarsh swards and Mediterranean saltmarsh scrub)

The irreplaceable habitats used in the mapping of APIBs comprises those defined as Irreplaceable Habitats in the ‘Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024’.

Back to start of section

Restoring peatlands: Cowles Drove extension to Lakenheath Fen

In 2023 the RSPB began work reverting 67 hectares (ha) of arable land back to wetland which helps enlarge the existing reserve to a total of 490ha. The project aims to create fen and wet and dry grassland on the Norfolk/Suffolk border and to protect the remaining carbon held in the peat-based soils of these fields. When the land was being farmed, the peat had oxidised, releasing significant amounts of carbon dioxide.

The land lies within the Fens National Character Area with fen and wet grassland being Priority Habitats. The previously created nature reserve at Lakenheath, begun in 1995, now qualifies as a Site of Special Scientific Interest (SSSI) and as a Special Protection Area (SPA) for Common crane, Eurasian bittern and Western marsh harrier (but has yet to be designated).

Who's involved?

RSPB is the landowner and project manager of this scheme which has been funded by a donation from the Morgan Sindall Group. The RSPB is also part of the Fens East Peat Partnership (FEPP). The Lakenheath Fen project contributes to a larger effort to restore peatland sites in low-lying areas across Lincolnshire, Cambridgeshire, Norfolk and Suffolk. FEPP received grant aid from the Natural England Nature for Climate Peatland Grant Scheme.

Consultation has involved the Borough Council of King's Lynn and West Norfolk, Southery and District Internal Drainage Board (IDB), Environment Agency, Natural England, neighbouring landowners and the Ministry of Defence.

What have they achieved?

- 67 ha of arable land has been restored back to fen and wet and dry grassland
- The water levels have been raised across a wider 118 ha area to prevent peat erosion and carbon release.
- New habitat has begun to be used by wading birds, waterfowl and egrets.
- Cattle grazing on the land has commenced.

Cattle Egrets started visiting Lakenheath Fen shortly after grazing cattle were introduced.

Back to start of section

How do they do it?

The project started with extensive survey work to measure soil quality, peat depth, protected species and vegetation of the fields and ditches. Making use of existing data on peat depth, water transport through the soil and LiDAR (light detection and ranging) topography.

Water levels were raised by damming internal ditches and installing water control structures (including 7 sluices and 16 culverts) as well as removing field drains to prevent water loss, and the re-routing of an IDB drain.

Badgers and water voles were relocated and new habitat was created for them. Manual dipwells and auto-loggers were installed for ongoing monitoring of water levels and surface level change rods to monitor peat depth.

What is next?

- Installation of additional stock fencing.
- Installation of an electric pump (and its connection to the grid), to maximise the movement of water for the target habitats (fen and wet grassland) and species (waders, egrets, crakes, cranes).
- Finishing the validation process by the IUCN Peatland Code
- Continue ongoing monitoring of the water, species and habitat
- Registering the land (where eligible) for Biodiversity Net Gain

In the longer term, predator exclusion fencing will be installed around one field Much of the work to date has been done by contractors or RSPB staff but as the site transitions into more regular maintenance work RSPB will make increasing use of its volunteer team to assist with managing the land.

Find out more on the RSPB's Lakenheath Fen webpage

Left: Original water levels at Lakenheath Fen. Right: Water levels after raising. Raising the water levels prevents peat erosion and carbon release.

Back to start of section