



Local Nature Recovery Strategy

for Cambridgeshire and Peterborough



**Creating a wildlife-rich, resilient, productive and
sustainable landscape, for people and nature**

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We are seeking your views on this Local Nature Recovery Strategy



Part 1 of the document reminds us why nature is so important to our lives. It shows some of big challenges that our natural environment faces. It also shows the opportunities for action. Nature recovery can deliver wide benefits, such as water and air quality, or reducing flood risk.

Part 2 sets out the actions (also referred to as measures) we are suggesting for our most important habitats and species. Some actions cannot be mapped but are still important.

We suggest reading this document first. However, if you want you can go straight to what the strategy is recommending near you by looking at the Local Habitat Map. The map shows existing areas important for nature. It also takes the actions and shows where they could apply. The map has different layers that you can turn on or off – easy instructions are provided on the webpage.

We'd love to hear your comments on both this document and the map. We want to hear about whether we have got the right plants, animals and habitats. We want to hear about

the actions we suggest, and if we have shown all the right areas.

You can leave your comments here

You don't have to leave a comment on every question – just skip to those that you want to. You can also leave a comment on the map pages.

Once we have all the comments we will consider what changes are needed. We will approve the final Strategy by the end of the year.

Once the Strategy is approved then Local Plans and planning permissions need to have regard to it. Government will use it in its future spending plans. If you farm or manage land then the strategy can't require you to make any changes, but it will suggest the priority areas when action could be taken. All of our natural environment is important. We encourage everyone to look after nature. However, to have the best impact we need to focus our activity. This is why we are very interested in your comments on the actions and areas the Strategy shows.



Nature recovery: let's make it happen!

For millennia we have lived alongside and amongst nature, experiencing an abundance of wildlife through the changing seasons, the dawn chorus and bluebells in spring, wildflowers and clouds of insects in summer, autumn colours, and flocks of birds or owls hooting in winter. Our own prosperity was entwined with the natural world.

Since the industrial revolution and throughout the twentieth century we have improved our quality of lives in terms of health and life expectancy, quality of housing, income and material goods. Yet in the process we lost our connection to the natural world and have collectively forgotten that our own prosperity depends upon the natural world. We drained marshes, cut down woods, ploughed up wildflower meadows and polluted rivers. Our economic and political system has under-valued the natural world until it is nearly too late.

But it isn't too late. We know and understand there is a climate and biodiversity emergency. This is the first step on our journey to re-connect with nature, to value the natural world and to take action to bring about nature's recovery.

At times the size of the task may appear too daunting. However, we can all take action to help nature recover and collectively, everyone acting, even in small ways, we will make a difference.

Carrying out at least one wildlife friendly gardening option at home, whether putting up nestboxes, creating a pond, leaving part of a lawn unmown for part of the year, or planting pollinator friendly garden or window-box plants can make a difference. If 30% of gardens were wildlife friendly, this would be equivalent in area to all our internationally important wetlands. We can all reduce our carbon footprint and the amount of water that we use. We can start or continue our nature recovery journey at home.

With the right support, nature-friendly farming can flourish. This may include cropping less land at the field edges where the land is not as productive or having grass buffers adjacent to hedgerows, ditches and rivers. It may include a variety of higher value wildlife options such as bird seed mixes or pollinator flower mixes, or creating thick, dense hedgerows. Minimising the use of pesticides and fertilisers

alongside the above measures will help wild plant and insect populations to recover, which in turn feeds our birds and mammals. Some landowners will be able to create high-value habitats such as species-rich meadows, woodlands and wetlands, to buffer and extend our core nature sites.

Our parks and urban greenspaces can be managed to provide more space for wildlife, whether that is unmown or less frequently mown corners, new wildflower meadows, parkland and street trees, or hedgerows and small woodlands. Communities can work with their councils to create their own nature recovery plans for their local patch and make them happen.

Businesses can work with our Local Planning Authorities to invest in the new strategic natural places that our growing population requires. We can plan for and create the new downland, woodland, fen and parkland around and between our growing cities, towns and villages, to improve our quality of life.

Our Local Nature Recovery Strategy sets out the range of actions that will bring about nature recovery in Cambridgeshire and Peterborough. The Local Habitat Map shows where these actions will benefit our most valuable habitats. However, nature recovery is more than just one strategy. It is about us all acting for nature and in so doing, our actions no matter how small will help us reconnect with the natural world.

In reconnecting with the natural world, we will value what nature provides for us and how it is essential to our health, our food supplies, clean water and economic prosperity.

We can create an environment where we will hear a richer dawn chorus in our woods, hedgerows and parks, see clouds of butterflies and other insects in flower-rich meadows, verges and field margins, and witness large flocks of birds flying across our skies. Our rivers and chalk streams will flow with clean water and be teeming with fish, dragonflies, water voles and otters.

We have the knowledge to help nature recover. Let's make it happen!





1

Introduction

What is a local nature recovery strategy?

Local nature recovery strategies (LNRS) are a new, England-wide approach to supporting nature recovery, as mandated by the Environment Act 2021. There will be 48 LNRS together covering the whole of England, each setting out priorities and actions (referred to in the Environment Act 2021 as 'potential measures') to support nature

recovery and provide wider environmental benefits in their area.

Together they will describe a Nature Recovery Network across England. They will also be crucial to achieving local and national environmental goals, helping us to adapt to climate change and promote healthier, more sustainable living.

The Environment Act state that each LNRS must include:



A statement of biodiversity priorities, including:

- i. a description of the strategy area and its biodiversity.
- ii. opportunities for recovering or enhancing biodiversity in the strategy area.
- iii. priorities for biodiversity recovery or enhancement, considering contributions to other environmental benefits.
- iv. proposals for potential measures related to those priorities.



A local habitat map that identifies:

- i. national conservation sites in the strategy area.
- ii. **local nature reserves** within the strategy area.
- iii. other areas in the strategy area which:
 - a. are, or could become, of particular importance for biodiversity, or
 - b. are areas where the recovery or enhancement of biodiversity could make a particular contribution to other environmental benefits

The LNRS will help inform where public money is spent on nature recovery, inform sustainable land use planning through the planning system and shape how **nature-based solutions** are delivered and inform sustainable land use planning through the planning system for example through BNG. These solutions will achieve outcomes beneficial to society including flood management, improvements to water quality and **carbon sequestration**.

The Cambridgeshire and Peterborough LNRS has been designed to act as a guide to the

most effective actions and locations for nature recovery. **An online interactive map** will help users to understand the priorities in their locality. It informs the most effective action for nature recovery across Cambridgeshire and Peterborough.

Everyone can take action for nature and play their part in local nature recovery. This strategy is for everyone, whether you are a farmer or landowner, environmental charity, business or developer, public organisation, policy maker, community group or local resident.

Area covered by the local nature recovery strategy

The LNRS covers the Cambridgeshire and Peterborough Combined Authority area as shown opposite

Purpose and structure of this document

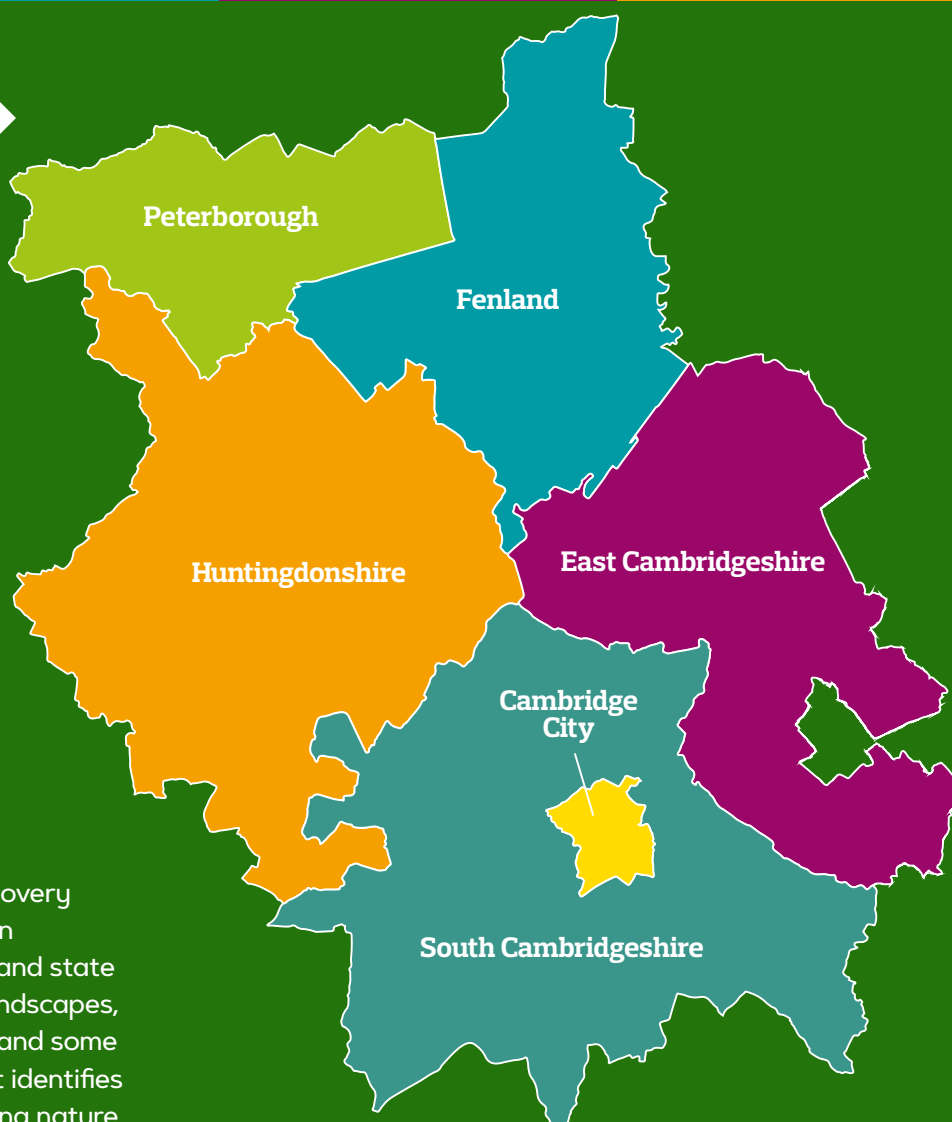
Part 1 of the LNRS provides a description of the area covered by the strategy, its biodiversity, and the opportunities for recovering or enhancing biodiversity in the area.

It sets the scene as to why nature recovery matters and is essential. It provides an overview of the natural environment and state of nature locally including our local landscapes, key protected nature sites, habitats, and some of our most notable species. Finally, it identifies the challenges and opportunities facing nature locally.

Part 2 of the LNRS sets out the 'priorities for biodiversity recovery or enhancement' and 'proposals for potential measures', as well as how the local habitat map (showing the opportunity areas for nature recovery) was created.

It sets out the vision for the LNRS and its strategic priorities. It also identifies the **priority natural landscapes** that are best suited to achieve large-scale nature recovery across Cambridgeshire and Peterborough in the years ahead. It also describes the action for nature recovery that can be undertaken across the farmed and urban landscapes, which form the vast majority of the LNRS area.

It identifies the habitats and species that are our local priorities for nature recovery in Cambridgeshire and Peterborough, along with the actions required to support their recovery. These form the **local habitat map** and the relationship of the local habitat map to local plans and biodiversity net gain is described.



Further information on the detailed methodology used to select our local habitat and species priorities, and the chosen measures is included in our supporting documents along with a range of background information. The supporting documents are listed below:

- LNRS prioritisation and mapping methodology.
- habitat opportunity modelling methodology.
- stakeholder engagement.
- long list of priority habitats.
- priority species list without actions.
- case studies of nature recovery action.
- national and local context
- list of relevant legislation, policy and strategies.
- LNRS and the planning system



[Click to view the local habitat map](#)



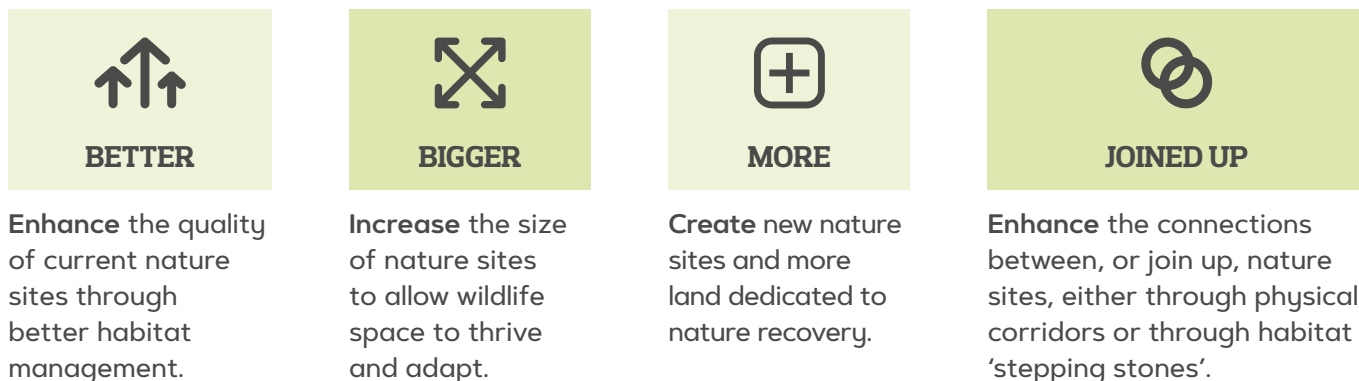
[Click to discover more about this process](#)

The Lawton Principles

A key approach to the development of this LNRS is the Lawton Principles:

These emerged from a review by Sir John Lawton (2010)¹ to assess how England's nature sites and wider ecological networks could be improved to help nature thrive in the face of climate change and other pressures. The review concluded that England's nature sites did not comprise a coherent or resilient ecological network and that a step change was needed in nature conservation action.

The Lawton report described the four components of a healthy ecological network; these are described as:



These are shown diagrammatically below:

Components of an ecological network

Stepping stones:

Small patches of habitat that are not physically linked, but are close enough to provide shelter/ food/ rest to enable passage between core areas



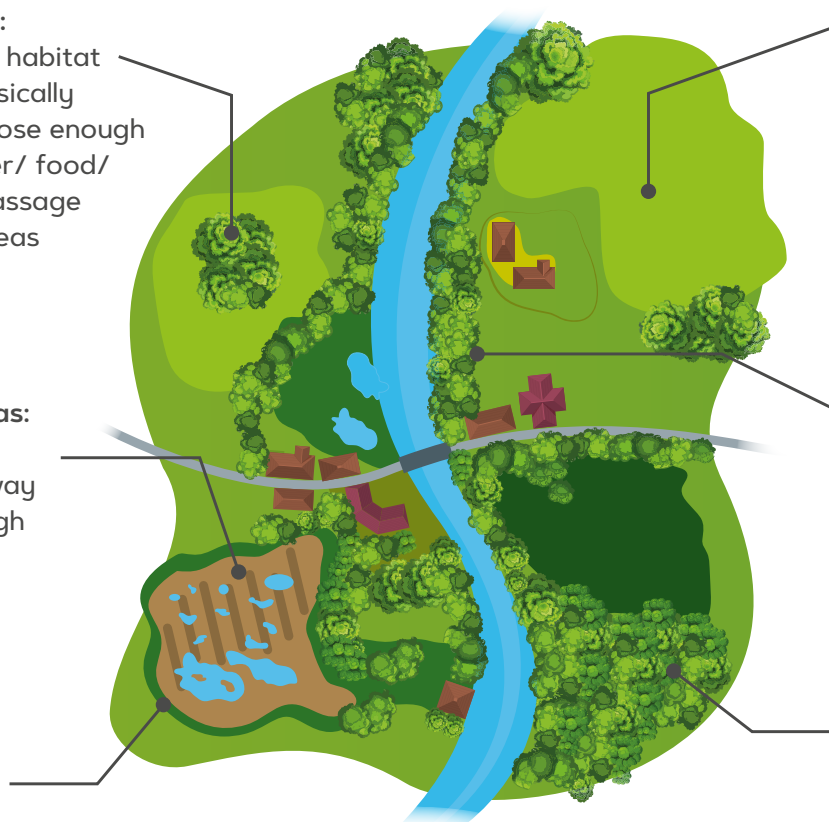
Restoration areas:

Where work is currently underway to create new high valued habitat



Buffer zones:

To protect core areas



Wider landscape:

Area that focus on the sustainable use of nature resources and activities that help make the wider landscape more wildlife-friendly



Corridors:

Strips of habitat that can provide a safe passage between areas



Core areas: Place most important for biodiversity, including protected areas

Everyone can take action for nature and play their part in local nature recovery.

This strategy is for everyone, whether you are a farmer or landowner, environmental charity, business or developer, public organisation, policy maker, community group or local resident

1. Lawton, J. et al. (2010) Making Space for Nature: A review of England's wildlife sites and ecological networks



Statement of biodiversity priorities

Part one Area description



2

Setting the scene

Setting the scene

Why nature matters

Nature is important for its own sake, the unique product of millions of years of evolution and natural processes. For many people, connecting with nature is a source of inspiration or renewal and reminds us that we are part of something bigger, that enriches our daily lives.

Everything we do, from the water we drink, the air we breathe and the food we eat is dependent on the natural world. Three-quarters of our food crops depend on insects and pollination, yet insect

numbers have crashed. Deteriorating soil health due to historic farming practices poses a major risk to farming and food security. An environment rich with plant life helps clean the air we breathe. Trees provide shade and slow the flow of flood waters. Natural spaces help make attractive places to live, work and play. They provide spaces for relaxation, leisure and tranquillity and boost our health and wellbeing. If nature is depleted through our actions, we are also harming ourselves.

Why do we need a local nature recovery strategy?

England is one of the most nature-depleted counties in the world², as demonstrated by the lack of nature-rich land and by historic and continued declines in species.

In terms of natural habitats, Cambridgeshire has one of the lowest proportions of land designated for nature in the UK (3.3%), the second lowest woodland cover at just 4.8%, and one of the lowest proportions of nature-rich habitats (approximately 8%) in England. The rapidly growing population of Cambridgeshire and Peterborough does not have national parks, national landscapes or large areas of open access downland, forest, moorland or coast on its doorsteps.

The national State of Nature Reports³ tell in stark terms of the declines in species populations, and the collapse in bio-abundance, in particular invertebrate populations.

64%
decline in
abundance of UK
Priority species

54%

45%
decline in
butterfly
distribution
SINCE 1976



25%

of UK fish stocks
are in a **CRITICAL**
condition

43% & 26%
of bird
species
of terrestrial
mammal species
...are threatened
with extinction

25%
DECLINE
in moth
numbers
SINCE 1970



Did you know?

State of nature reports uses data from biological monitoring and recording schemes to provide a benchmark for species populations throughout the UK



We are in a biodiversity crisis as well as a climate crisis. This mass depletion of biodiversity is now having harmful consequences for humans, both economic and social. Taking action to promote nature recovery has never been more important, which is why we need LNRS.

Causes of the decline in nature



Pesticides



Pollution



Increasing population



Habitat loss and degradation



Invasive species and disease

As well as the species losses described above, the UK lost over 97% of its lowland meadows between the 1930s and 1980s⁴. Further losses since the 1980s suggest the overall losses locally are likely to be 98-99%. We have lost over 75% of our wetlands since the 1700s⁵, largely through drainage for agriculture, and these losses have continued into the 20th and 21st centuries. The Fens was the largest wetland in western Europe prior to drainage from the 17th century onwards.

The removal of scrub and hedgerows and inadequate woodland management and protection (only 7% of the UK's woodland is in a good ecological condition⁶) have all contributed to nature's decline. While agricultural changes account for the majority of the habitat losses, urban expansion has also played a significant role locally, with a doubling of the urban area over the past century. This pressure is set to continue over the coming decades.



Habitat loss and degradation

The primary driver of wildlife decline in the UK and locally is the loss and degradation of habitats. Since the Second World War, the intensification and expansion of farming, coupled with urban development, has resulted in a significant loss of nature-rich land.



Pesticides

The use of pesticides has played a crucial role in significantly increasing farming yields and improving food security over the past 75 years. However, this has come at a substantial cost to wildlife. In the 1960s and 1970s, the widespread use of now banned pesticides led to alarming declines in birds of prey and songbirds.



More recent generations of **pesticides**, such as **neonicotinoids**, are highly toxic to insects and other **invertebrates** on land and in water⁷.

The widespread use of broad-spectrum **herbicides** has reduced the diversity of plants across the farmed landscape and with it those insects that depend on these plants to complete their life cycles.

While the total weight of active pesticide ingredients has decreased since the 1990s, the total application area and frequency of use have both increased. The toxicity of **pesticides** has also increased, offsetting the decline in weight applied, and a greater variety of **pesticides**

are now used on a single crop⁸. This is contributing to the widespread loss in abundance of many **invertebrate** and other species groups.



Pollution

As well as **pesticides**, many of our local waterways have elevated nutrient levels, both **phosphates** and **nitrates** and as a result are not reaching their full ecological potential. **Phosphates** come from both human wastewater and from runoff from farmland⁹. The poor water quality affects the composition of the aquatic plants and animals, with species of low nutrient conditions in decline.

Poor quality flood waters also impact adjacent floodplain wetland and flood meadow habitats, reducing the abundance of notable species dependent on low nutrient levels.





Air pollution from nitrogen used in agriculture and transport is contributing to the declining quality of many natural habitats, including grasslands and woodlands, as many notable species of these habitats require low nutrient conditions.

With increased urbanisation, there is also more light pollution, which has been shown to affect the natural behavioural patterns of bats, birds and moths and is also now thought to be contributing to insect declines¹⁰.

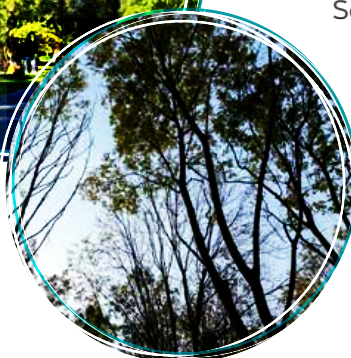
The increasing concentrations of pharmaceutical chemicals and microplastics within freshwater

environments are also becoming an increasing concern. However, we do not yet understand the impacts these substances have on wildlife.

Public survey feedback

'We need public engagement, but also areas which are protected from human impact.'

Public survey respondent



Invasive species and disease

Some non-native species become **invasive** and adversely impact local ecosystems. The species with the most impacts locally are Muntjac Deer, American Mink, Signal Crayfish, Himalayan Balsam, Floating Pennywort, Azolla and increasingly a range of **invertebrates** in the Fens waterways.

Tree diseases have had significant impacts on Cambridgeshire's landscapes. The loss of Elms in the 1970s to Dutch Elm Disease altered the landscape dramatically. Ash dieback is now having a similarly large-scale impact on our local woodlands where Ash is the dominant species.

Public opinion

'I am concerned about the loss of wildlife we are accustomed to seeing in our gardens'

Cambridge City Resident



Increasing population

The human population of Cambridgeshire and Peterborough has grown by over 20% since 2000. As well as the loss of habitat to urban development, natural assets in Cambridgeshire and Peterborough are also coming under increasing pressure with conflicts and damage from recreational activity being recorded at sites including Wicken Fen and many Sites of Special Scientific Interest (SSSIs) and nature reserves.

Better management, restoration and creation of natural habitats will not just play a part in reversing the loss of biodiversity. It will also contribute towards achieving net zero-carbon and help provide better access to the countryside for



a growing population with the health and social benefits that this brings to the local economy.

As outlined by the UK government 'sustained economic growth is the number one mission of this government, but this cannot come at the expense of our natural environment. A healthy natural environment is essential both in its own right and for sustained and resilient growth' ([Nature Restoration Fund, 2025](#)).

Nature and development can coexist through sustainable planning that integrates green spaces, protects biodiversity, and enhances ecosystems while meeting growth aspirations. An example of how nature can be integrated into development is Trumpington Meadows. Further information can be found in supporting document 6.

Cambridgeshire and Peterborough land use changes over the past century

Land use in Cambridgeshire and Peterborough has changed significantly over the last century.

Between 1930 and 2018 there has been large-scale habitat loss, with the remaining areas of habitat becoming smaller in size and more fragmented.

A summary of the key changes is as follows...¹¹



Expansion of intensive land uses and / or those unfavourable to biodiversity:

Arable land increased by 31,200ha (15% increase from 61% to 70%)

Built-up areas and gardens increased by 16,500ha (84% increase from 6% to 11%)

Natural and semi-natural habitat LOSS



Marsh habitat loss of 2,900ha (88% decline)

Semi-natural grassland has declined by at least 84% (more likely to be 97-99% with a better definition of semi-natural grassland)



Natural and semi-natural habitat GAIN



Woodland increased by 7,000ha (85% expansion from 2% to 5%)

Waterbodies increased in number and total area

Due to the sand and gravel mineral extraction and construction of Grafham Water

Current land uses



Farmed landscape



Urban landscape



Natural landscapes

Cambridgeshire and Peterborough are dominated by arable agriculture and urban settlements. Estimates put the cover of high-value habitats for nature at around 8% of the land area.



Farmed landscape

Around 80% of Cambridgeshire and Peterborough is agricultural land. A high proportion is highly fertile **grade 1 and 2 land** which makes a significant contribution to the nation's food production (over one-third of England's fresh vegetables are produced in the Fens). Much of the highest quality agricultural land is on peat soils in the Fens. Cambridgeshire has around 27% of England's total peatland, but due to intensive use accounts for 70% of the damaged peatland in the country¹². Beyond the Fens, arable farming remains the predominant land use across the chalk landscapes in the south of the county and the claylands in the west.



Urban landscape

Cambridgeshire and Peterborough is a largely rural area. It is formed of five districts and one unitary authority which include historic cities such as Cambridge, Peterborough and Ely, smaller market towns such

as Huntingdon, March and Wisbech, and numerous villages. Over the past twenty years the area has seen one of the UK's biggest population increases. Overall, the number of people living in Cambridgeshire and Peterborough has risen by 20% since 2000 and 9.2% since 2015 which is higher than the East of England average¹³.

Peterborough is one of the top ten fastest growing cities in the UK¹⁴ and this rapid population growth has led to significant urban expansion and increased demands on resources.



Natural landscapes

Approximately 8% of Cambridgeshire and Peterborough¹⁵ is high-value natural habitats. This is one of the lowest proportions in England. Most of these nature sites are small and fragmented.

The remaining habitats are therefore under intense pressure for the reasons set out previously. Although starting from a low base, there are significant opportunities for nature recovery.



Did you know?

Grade 1 and 2 land is an agricultural land classification that determines the quality of existing farmland or undeveloped land. Grade 1 and Grade 2 land is considered 'excellent' and 'very good' respectively.



3

Our natural environment

Our natural environment

Landscape character

National Character Areas (NCAs) are areas that represent a distinct and recognisable landscape character across England. NCAs provide a useful starting point to describe the landscape as they influence where different habitats and land management can be supported.

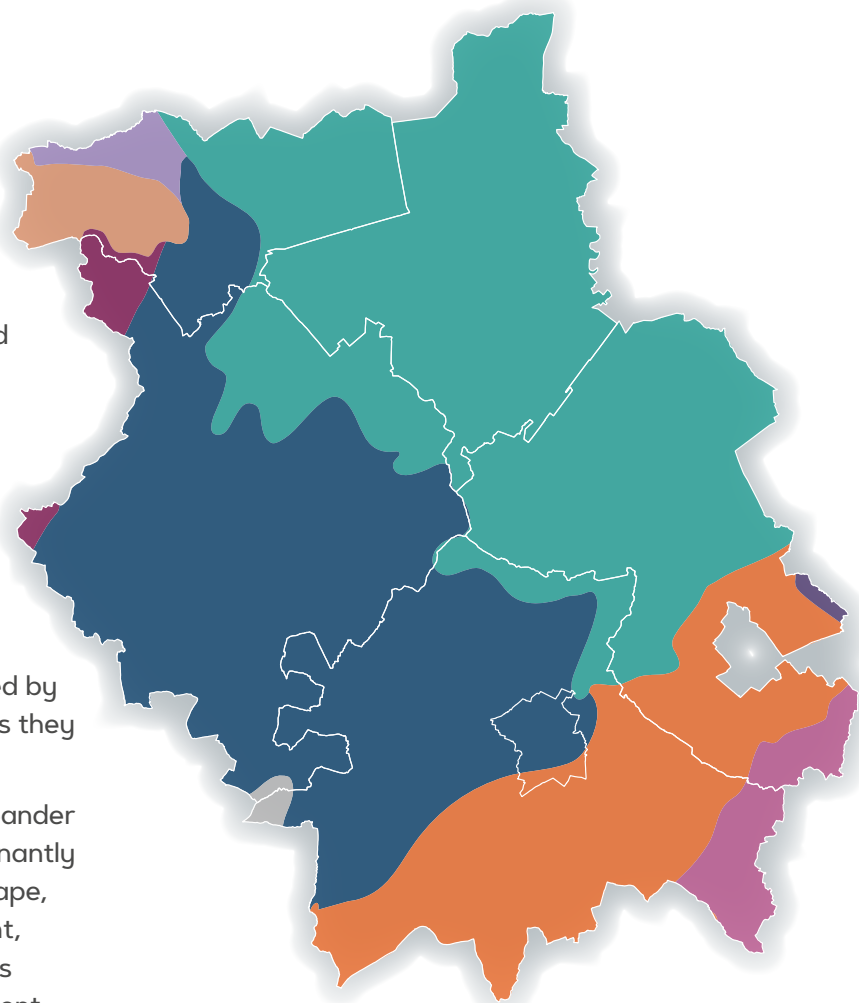
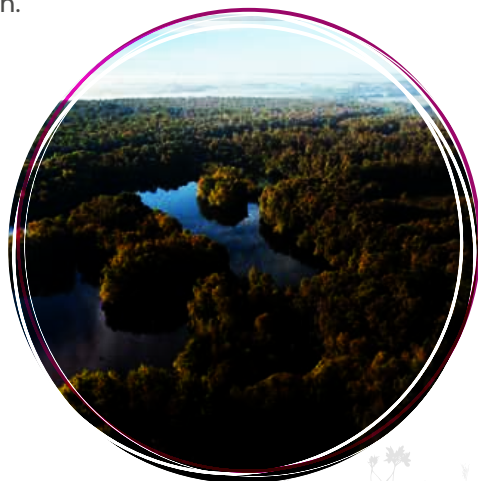
There are three main NCAs that cover Cambridgeshire and Peterborough as shown here.



In the west, the Bedfordshire and Cambridgeshire Claylands are a broad, gently undulating, lowland plateau dissected by shallow river valleys that gradually widen as they approach the Fens in the east.

The river Great Ouse and its tributaries meander across the landscape. While this is predominantly an arable and commercially farmed landscape, a wide diversity of habitats are also present, including: Grafham Water SSSI, noted for its wintering birds and passage migrants; ancient woodland at Monks Wood National Nature Reserve noted nationally for its rich insect fauna; and flood meadows at Portholme SSSI which are still traditionally managed as per the historic common 'lammas' system¹⁶.

The East Anglian Chalk covers a large swathe of the south of the county. It is characterised by rolling chalk hills with large regular fields enclosed by low hawthorn hedges, few trees, straight roads and expansive views to the north.

The chalklands are crossed by internationally important **chalk streams** in the gentle valleys of the rivers Granta and Rhee which converge to form the Cam just south of Cambridge. Large-scale cereal production dominates, with small fragments of botanically rich grasslands such as those found at Gog Magog Golf Club SSSI, and Devil's Dyke SSSI¹⁷.



- | | |
|---|--|
|  Bedfordshire and Cambridgeshire Claylands |  Rockingham Forest |
|  Bedfordshire Greensand Ridge |  South Suffolk and North Essex Clayland |
|  East Anglian Chalk |  The Brecks |
|  Kesteven Uplands |  The Fens |
|  Northamptonshire Vales | |

Source: Natural Capital Solutions (2024)

Did you know?

National Character Areas – 159 Character Areas have been established by Natural England, covering the entirety of England.

Each area represents a distinct and recognisable region based on landscape features rather than county or district boundaries.

In the north and east, the Fens form a distinctive, historic and human-influenced arable landscape. It is a large, low-lying, predominantly flat landscape with an intricate network of drainage ditches, dykes and rivers that drain towards the Wash.

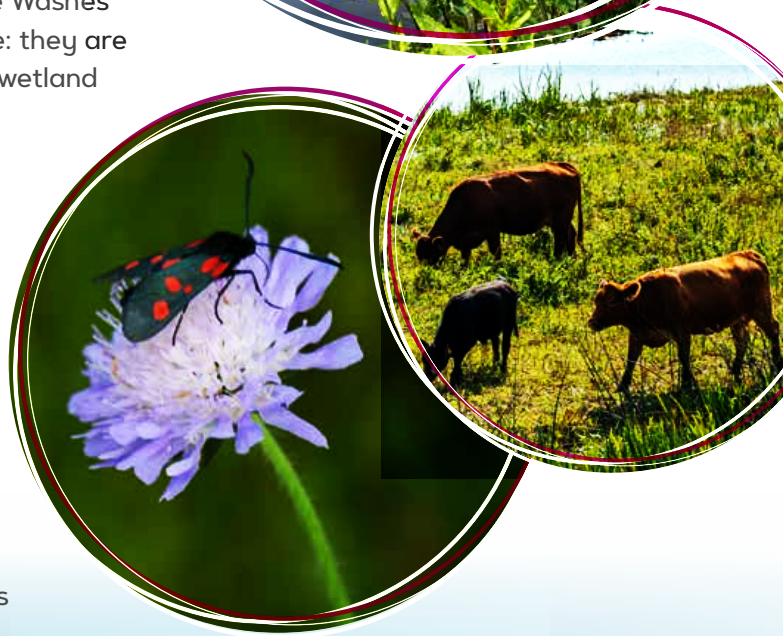
Much of the land is at or below sea level, relying on pumped drainage and the control of sluices at high and low tides to maintain its use for agriculture.

Public survey feedback

'I love having green spaces on the doorstep; being able to experience nature is vital to good mental health'
East Cambridgeshire resident

Two major rivers in Cambridgeshire drain into the Wash: the Great Ouse and the Nene. Both 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 and settlements. The associated Ouse and Nene Washes are both highly designated reflecting their importance: they are listed as **Ramsar** sites of international importance as wetland habitats, as **Special Protection Areas (SPA)**, **Special Areas of Conservation (SAC)** and **Sites of Special Scientific Interest (SSSI)**. They are particularly noted for the large numbers of wildfowl and waders that they support¹⁸.

Toward the borders of Cambridgeshire and Peterborough lie small parcels of neighbouring NCAs which contribute to the mosaic of habitats and to cross-boundary connectivity with the wider nature network. These include the Lincolnshire and Rutland Limestone and Rockingham Forest in the north-west, the Bedfordshire Greensand Ridge in the south-west, and the East Anglian Plain and Brecklands in the south-east.



Protected sites

Internationally important nature sites

The area has eight internationally important European designated nature sites which are either Ramsar sites, Special Area of Conservation (SAC) or Special Protection Areas (SPA).



Ouse Washes Ramsar, SAC, SPA (338 hectares, 2499 hectares)

- designated for its internationally important numbers of breeding and wintering waders and waterbirds, and in particular breeding Black-tailed Godwit, Snipe, Ruff, Shoveler, Gadwall and wintering Whooper Swan, Bewick's Swan and Wigeon.
- designated for its population of Spined Loach.



Nene Washes Ramsar SAC, SPA (88 hectares, 1520 hectares)

- designated for its internationally important numbers of breeding and wintering waders and waterbirds, in particular breeding Black-tailed Godwit, Shoveler, Garganey, Gadwall and wintering Bewick's Swan, Wigeon, Teal, Shoveler, Pintail and Gadwall.
- designated for its population of Spined Loach.



Fenland SAC (619 hectares)

- designated for calcareous and other fen types, with Spined Loach and Great Crested Newt also as qualifying features.
- includes Wicken Fen, Woodwalton Fen and Chippenham Fen national nature reserves.
- supports a wide range of nationally and locally rare species.



Orton Pits SAC (141 hectares)

- designated for the largest known breeding population of Great Crested Newts.
- designated for its nutrient-poor water bodies supporting populations of stoneworts, including the main UK population of Bearded Stonewort.



Portholme SAC (91 hectares)

- designated as the largest lowland hay meadow in the UK.



Devil's Dyke SAC (8 hectares)

- designated for its orchid rich calcareous grassland.



Barnack Hills and Holes SAC (23 hectares)

- designated for its orchid rich calcareous grassland.



Eversden and Wimpole Woods SAC (66 hectares)

- designated for its Barbastelle bats maternity colony, feeding area and foraging flight paths.



Nationally designated sites

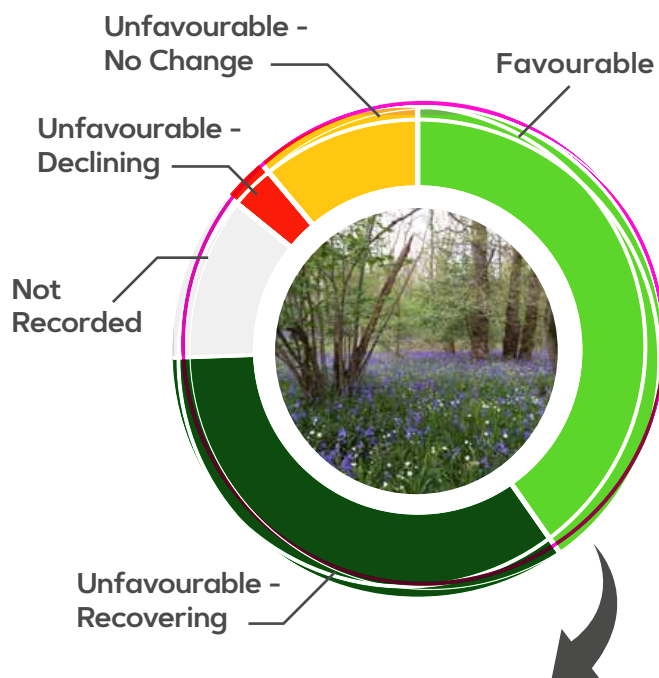
Sites of Special Scientific Interest (SSSIs) are our most valuable sites for nature and include the international sites listed above. They cover the full range of habitats from ancient woodlands, species-rich grasslands, fens, lakes and wetlands and geological sites. They cover 8,800 Hectares, approximately 2.6% of our area.

Our largest sites outside the international sites are:

- Bedford Purlieu (214 hectares).
- Brampton Wood (132 hectares).
- Cam Washes (166 hectares).
- Castor Hanglands (89 hectares).
- Grafham Water (806 hectares).
- Holme Fen (269 hectares).
- Little Paxton Pits (127 hectares).
- Monks Wood (169 hectares).

A summary of the condition of SSSIs across Cambridgeshire and Peterborough is shown here:

		Sites
Total Number	→	99
Total Area (ha)	→	8,808.45
Number of features	→	237



	Favourable	Unfavourable - Recovering	Unfavourable - No change	Unfavourable - Declining	Not recorded
Number of features	96	81	27	7	26
Percentage	40.51%	34.18%	11.39%	2.95%	10.97%

% features meeting 'favourable or unfavourable recovering': 74.68%



Local Nature Reserves and Local Wildlife Sites

There are over 500 local wildlife sites and 34 local nature reserves in Cambridgeshire and Peterborough. These cover approximately 2.8% of the land area.

In 2024 only 41.4% of sites in Cambridgeshire were in positive management. The figures varied considerably with from Cambridge with 62.5% of sites in positive management to the rural districts of East Cambridgeshire, Fenland and Huntingdonshire with between 32-36% of sites in positive management.



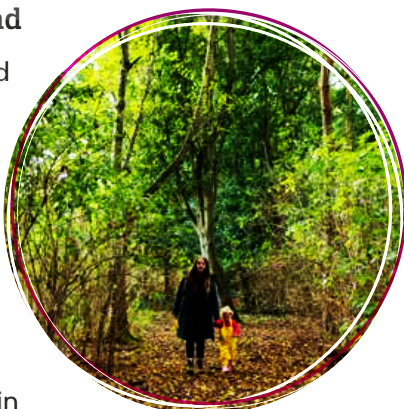
Peterborough however had a much higher proportion of sites in positive management at 78.6%, reflecting the greater effort put into assessing sites and providing information and support to landowners through a partnership between Peterborough City Council and the Wildlife Trust Bedfordshire, Cambridgeshire and Northamptonshire.

Priority habitats

Trees and woodland

Cambridgeshire and Peterborough have approximately 16,300 Ha of woodland which equates to 4.8% of the land area. This is one of the lowest proportions of woodland cover in England. However, since the middle of the 20th century there has been an 85% increase in woodland cover.

The total area of ancient woodland is however only 2,886 hectares (0.8% of the area). This includes 1,876 hectares of semi-natural ancient woodland and 992 hectares of planted ancient



woodland sites (with most of the planting in the 20th century post-World War Two).

There are five main clusters of ancient woodlands:

- **west of Peterborough** including Bedford Purlieus and Castor Hanglands.
- **along the fen-edge** including Monks Wood and Aversley Wood.
- **In a ring around Grafham Water** including Brampton Wood, Perry Wood and Little Paxton Wood.
- **west of Cambridge** including Hayley Wood, Gamlingay Wood, Waresley and Gransden Woods, Eversden Wood and Kingston Wood.
- **In the south-east of Cambridgeshire** including Out and Plunder Woods, Lower Wood and Langley Wood.



Ash woodlands are the dominant type reflecting the chalky boulder clay soils on which most semi-natural woodlands are found. These include woods in the south-east and south-west of the county with Oxlip, a species restricted to parts of Cambridgeshire, Suffolk and Essex. However, with the advent of Ash dieback, the future for our ash woods is highly uncertain. While the areas will remain wooded, tree cover will reduce significantly in the short-term with significant changes to tree species composition likely in the future.

Did you know?

Cambridgeshire and Peterborough have approximately 16,300 Ha of woodland which equates to 4.8% of the land area



Huntingdonshire and Cambridgeshire were renowned for their Elm woods and large field boundary Elm trees prior to the ravages of Dutch Elm Disease from the 1970s onwards. However, there are several surviving Smooth-leaved Elm woods which are nationally significant. There are also a few historic parklands with veteran **pollarded** Elm trees. Elms also form a substantial proportion of hedgerow trees in the county, and green lanes and fenland **droves** lined by elms are a unique feature of parts of the county. Elms are host to a suite of **invertebrates** which have become restricted with the decline in elm abundance.

Veteran willow pollards alongside rivers and floodplains, particularly in the Fens and along our river valley, provide unique features vital for biodiversity.

Cambridgeshire is also known for its traditional orchards, with examples concentrated on the fen edge of South Cambridgeshire, in south Huntingdonshire, and particularly west and north-east of Wisbech.

Grasslands and other open habitats

The Great Ouse Valley is renowned for its lowland flood meadows between St Neots and Earith. Port Holme is the largest lowland flood meadow in England. Other examples include St Neots Common, the Hemingford Meadows and Houghton Meadows. These flower-rich habitats support nationally scarce and threatened species such as Narrow-leaved Water Dropwort. Species-rich examples are also known to store high levels of soil carbon.



Chalk downlands once occurred extensively across the chalk in the south of Cambridgeshire from Royston to Newmarket. They are the most flower-rich habitats in England and can support up to 40 plant species per square metre. However, the flat and rolling terrain has resulted in most of the area becoming arable farmland and chalk grasslands are now restricted to relatively small areas including ancient monuments (Devil's Dyke, Fleam Dyke, Roman Road), parish chalk pits and road verges. There are more extensive chalk grasslands around Newmarket on the gallops used for racehorse training, but their management restricts their species richness and habitat quality.

There is a suite of species-rich limestone grasslands west of Peterborough including Barnack Hills and Holes National Nature Reserve and various sites around Southorpe. These support species such as Pasqueflower and Man Orchid.

Lowland meadows are scattered throughout the claylands, but most remaining examples are small, isolated sites and they are often suffering from under management or used for pony grazing and over-grazed.

In the far east of the county, on the Breckland edge there are a few sites supporting acid, sandy grasslands, usually former sand and gravel quarries. These support a specialised suite of plant and **invertebrate** species associated with bare ground and disturbed conditions. These species also occur in some of the sand and gravel pits in the Fens.



Wetlands

With the drainage of the Fens basin and conversion of the largest wetland in England to farmland from the 17th century onwards, only four remnant fen sites survived at Wicken Fen, Woodwalton Fen, Holme Fen and Chippenham Fen. These fens, fen meadows and other wetlands are the most species-rich habitats in Cambridgeshire supporting a rich array of fen plants and wetland **invertebrates** including large numbers of threatened, rare and scarce species. More species have been recorded from Wicken Fen than any other site in Britain.

Did you know?

Although the current network and mechanism for the drainage of the Fens basin were constructed from the 17th Century onwards, many of the channels date from Roman and medieval times

In spite of the drainage of the Fens, some drainage ditches remain rich in relic fen plant and **invertebrate** species, particularly where the water quality is good. This usually arises where the water sources come from underlying peat, sand, gravel or chalk geology. These drains provide potential stepping stones and refuges for these relic fen species away from the main fen sites. However, most of the drainage ditch network suffers from poor water quality and high nutrient levels, limiting plant and invertebrate species richness.

The inter-connected network of drainage ditches, particularly

the Internal Drainage Board drains support a nationally significant population of Water Voles, as water quality is less of a constraint to this species.

The large washlands through the Fens at the Ouse Washes and Nene Washes are an integral part of the drainage system and support extensive areas of wet grassland and other floodplain wetland mosaic habitats. These in turn support internationally important numbers of wetland birds and the ditch networks support a suite of fen aquatic plants and **invertebrates**.

Elsewhere in the County, other fen and fen meadow sites are associated with chalk springs and streams in the south of the county, such as Shepreth L-Moor, and limestone to the west of Peterborough, such as Sutton Heath and Bog, and Whitewater Valley.

These are generally small, with neighbouring land uses and water abstraction putting added pressure on the species for which they are noted.

Parts of the chalk landscape hold concentrations of temporary pools on bare chalk which support specialist species such as Grass-poly and Fairy Shrimp.

Chalk streams are internationally important with England supporting 85% of the world's resource of this habitat. In Cambridgeshire they mainly occur in the Upper Cam Catchment and include the tributaries of the Rhee (Mill River, Mel, Shep and Hoffer Brook), the River Granta, Hobson's Brook and Cherry Hinton Brook. The Wilbraham River flows to the lower Cam as do the lodes through the South Level, which although man-made are fed by water from the underlying chalk aquifer. In the east the River Snail is a **chalk stream** before it joins the Soham Lode.

All of our **chalk streams** have been significantly changed by past river engineering and drainage works as well as other modifications to create mill races or ornamental lakes. However, they still support populations of species including Brown Trout, Brook Lamprey, Water-Crowfoots and **chalk stream invertebrates** such as mayflies and stoneflies.



Major river restoration work is required to return our local **chalk streams** to a more natural character, but this will also depend on reduced water abstraction from the underlying aquifer to restore more natural flow levels.

Our other rivers and their tributaries have been significantly changed for navigation, drainage or both. They have often been straightened, over-deepened and widened, with a disconnect between the river and floodplain. Although the rivers are often degraded, high quality habitats survive within the backwaters and on the floodplains of the larger rivers.

Cambridgeshire and Peterborough contain several habitats with types of species that are rare or absent elsewhere in Britain (and Europe).

These are listed below:

Nationally rare habitats which are unusually well represented in the county

- fens
- fen meadows
- fen ditches
- chalk streams
- seasonally flooded chalky pools (grass-poly, fairy shrimp etc)
- flood meadows
- chalk downland
- smooth-leaved Elm woods
- oxlip woods
- parkland with veteran pollarded elms
- traditional Orchard
- fen droves with elms

Iconic, notable and important species

Mammals

Cambridgeshire contains an important population of Barbastelle Bats associated with the parkland

and ancient woodlands around Wimpole, with smaller populations in nearby woodlands.

The fens support a nationally important population of Water Voles, that has the potential to spread into many of the major rivers of middle England.

Birds

The washlands of the fens are home to the only regular breeding populations of Black-tailed Godwit in Britain, the most frequent site for breeding Ruff, and internationally important numbers of wetland birds visiting in winter, including Whooper Swan, Bewick's Swan, and Wigeon.

The creation of reedbeds at Ouse Fen post sand and gravel extraction will create over 700 hectares of reedbed and the local Bittern population is likely to grow to become nationally important.

Amphibians and reptiles

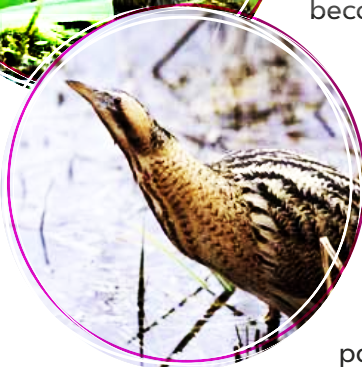
The largest known population of Great Crested Newts in the world is present at Orton Pits, south of Peterborough. The species is widespread through the claylands of the west and central southern parts of the area.

Fish

The fens support important populations of European Eel and Spined Loach.

Invertebrates

Despite the very small area of surviving habitats, the **Fens** is uniquely rich in wetland invertebrates, supporting around 10,000 species, over a quarter of British fauna. These include rare and threatened species in every habitat: European threatened species such as Desmoulins's Whorl-snail and Rosser's Sac-spider in sedge-beds, the only British populations of Twin-spot Longhorn Beetle in willow woodland, Tansy Beetle in fen



meadows (otherwise known from the Ouse Valley (near York), Reed Leopard Moth (here and in the Broads), and important populations of Norfolk Hawker Dragonfly, Large-mouthed Valve Snail and several rare water-beetles in fen ditches. The Great Ouse and New Bedford River are two of only three rivers where the rare Witham Orb Mussel has been recorded.

Cambridgeshire **woodlands** support insects which are rare elsewhere. Our elms host around 90% of the British population of White-spotted Pinion moth, in addition to the more widespread White-letter Hairstreak butterfly. Ancient woodlands have a very rich insect fauna, among the best-known of which is probably Black Hairstreak butterfly - around a quarter of the British populations of which occur in the county.

Cambridgeshire's grasslands support a diverse insect fauna, though the rarest and most threatened species, such as the metallic-blue seed-eating ground-beetle *Ophonus puncticollis*, are mainly associated with disturbed habitats on chalk.

Plants

Cambridgeshire holds significant numbers of Elm species, five of which are confined globally to the county. It represents one of the hotspots in the UK for both diversity and abundance of elms,

which support rare **invertebrates** and the elm-dependent lichen *Bellicidia imcompta*. Our ancient woodlands in the south-west and south-east of the county support species such as Oxlips that are otherwise found only in Suffolk, Essex and Norfolk.

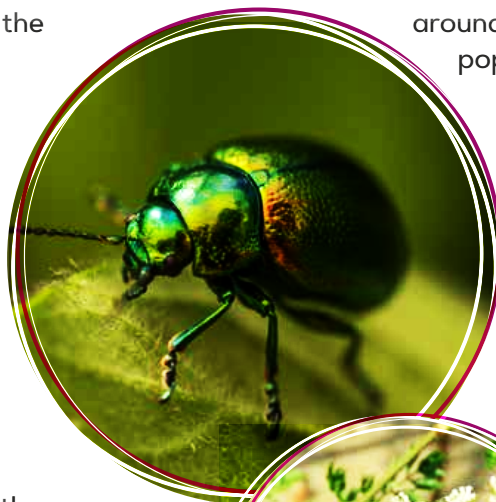
Woodland edge habitats in Cambridgeshire hold around half the UK Crested Cow-wheat population.

Three fen plant species - Cambridge Milk-parsley, Fen Woodrush and Fen Ragwort are confined to Cambridgeshire, as is the fen subspecies of Heath Dog-violet. Several other wetland plants are extremely rare elsewhere, such as Fen Violet and Water Germander,

The unique brackish-water habitats of the Peterborough clay-pits are of European significance for their stonewort populations, including the stronghold for Bearded Stonewort in Britain.

Our chalk grasslands support species associated with a drier, more continental climate such as Moon Carrot and

Great Pignut, which are known from only two or three other counties. Orchid-rich grasslands were for decades the national stronghold of Lizard Orchid, currently expanding into new areas. Important populations of Pasque flower and Rare Spring-sedge still survive in the county, together with the only lowland population of Mountain-everlasting in England.





4

Challenges and opportunities

Challenges and opportunities

Over the last century, changes in land use across Cambridgeshire and Peterborough have led to significant habitat loss, with remaining habitats becoming smaller and more fragmented.

The area is one of the driest in the country with the lowest rainfall, whilst also being at greatest risk of flooding. Both issues are likely to worsen with the impacts of climate change.



The following are key challenges specific to Cambridgeshire and Peterborough:

- rising sea levels due to the changing climate and how this is being managed.
- the importance of the remaining lowland peat soils and limiting CO₂ and methane emissions from agriculture.
- providing space for nature within our farming and food production system.
- how water is managed and the current impacts of over-abstraction on wetlands and chalk streams.
- water quality and excess nutrients, adversely impacting aquatic ecosystems and wetland habitats.
- the impact of major infrastructure such as new housing, employment sites and major transport schemes.
- the rising population and lack of large areas of downland, forest, or commons to provide natural green space for local communities.
- the fragmentation and low percentage land cover of natural habitats

There are however also new opportunities to better integrate nature into how we build settlements and infrastructure and practice farming and food production. There are also the wider benefits of nature recovery, not just for habitats and species, but for our economy and quality of life.

Did you know?

Fenland SOIL is a not-for-profit organisation that aims to develop farm policies to help achieve climate change mitigation and improved biodiversity within the Fenland region.

Each of these challenges and associated opportunities are considered by the following sectors.

Arable farming and lowland peat

The extent and condition of peat in Cambridgeshire is currently unknown, although there are projects looking to establish this being conducted by the Fens East Peat Partnership and Fenland SOIL. As set out in the England Peat Action Plan (2021), Natural England is working on a new peatland map. Future iterations of the LNRS should take account of this peat data once it is available.

There are growing efforts to monitor farming on peat soils to ensure soils are protected alongside healthy sustainable farm businesses. Fenland SOIL projects engage with farmers to encourage **regenerative** farming practices that reduce soil disturbance and carbon release, while maintaining the primary purpose of food production.





Soils on the fens are at risk of wind erosion, which can be a major problem during prolonged dry spells. Re-wetting will require large quantities of water, and major water abstraction pressures from agricultural use, public water supply demand and drought from climate change present significant challenges. Holding back water that currently flows out to the sea by encouraging farmers to provide reservoirs on their land or change their flood management strategies and seek to farm in alternative ways, could be two potential solutions. However, interventions need careful consideration on a case-by-case basis.

Projects are underway trialling wet farming techniques to test innovative new viable crops for food, healthcare and industry, and to lock in carbon whilst not increasing methane emissions. **Paludiculture** is the productive use of wet peatlands; a land management technique to cultivate commercially valuable crops on wet or re-wetted peatlands under sustainable conditions. **Paludiculture** is a developing science and trials such as Water Works project led by the Wildlife Trust are seeking to understand whether this will be a viable option for farmers¹⁹. The outcomes of these trials could present opportunities for nature recovery within Cambridgeshire and Peterborough.

Consultation as part of the production of the LNRS has found that Government **stewardship** incentives are often not appropriate for the type of agriculture practised in the fens. Encouraging and assisting farmers and landowners to change farming practices, where practical and viable, in areas of known peat deposits will be important for climate change mitigation and nature recovery in

Cambridgeshire and Peterborough but will require more targeted environmental schemes..



Opportunities for nature recovery in arable farming on lowland peat

- encourage and assist farmers and landowners to change farming practices where practical and viable in areas of known peat deposits.
- look at opportunities to hold water back on farmland through on farm reservoirs or changes in drainage management strategies.
- keep up-to-date with the outcome of wet farming technique trials and work with farmers and landowners to understand and overcome any barriers to implementation.

Nature-friendly Farming

Farmland birds, diverse flora, pollinators and Brown Hare are species typical to Cambridgeshire and Peterborough farmland but have suffered dramatic national declines due to land use intensification. Run-off of excess agricultural chemicals and soil are polluting many watercourses. Many agricultural soils are in a poor condition from decades of ploughing and artificial chemical inputs, with reduced levels of organic matter and a poor structure due to compaction.

Across Cambridgeshire and Peterborough there are farmers demonstrating wildlife-friendly practices such as sensitive hedgerow management,

providing uncultivated margins and headlands, buffering natural habitats, and creating small-scale farm habitats. These help wildlife populations to recover and move through the landscape.

Other farmers are adopting regenerative agricultural techniques to prevent the loss of soil and improve soil quality, and integrated pest management to minimise chemical inputs, whether pesticides or herbicides.

Farm clusters (groups of farmers / land managers working together at a landscape or local scale) are providing valuable support and opportunities for knowledge-sharing and training to increase understanding of the habitats and wildlife present on farms, and how best to protect or enhance wildlife alongside productive farm businesses.



Opportunities for nature recovery in arable farming

- encourage and assist farmers and landowners to adopt nature-friendly farming practices.
- support the adoption of regenerative farming and integrated pest management approaches across the whole farming sector.
- encourage and support farmers to work with their neighbours through farmer clusters to learn together and share knowledge.

Water resource management and aquifer depletion

The drying out of our chalk streams in 2019 and 2022, following previous droughts in the 1990s, is putting significant pressure on the species reliant on these habitats. Many of the spring-fed fens are in a poor condition and several rare species dependent on high ground-water levels and clean spring water have not been recently



recorded. Over-abstraction of water from the chalk aquifer for public water supply means that our rivers and wetlands are less resilient to natural drought periods and climate change is likely to exacerbate these threats, with more frequent drought periods in the future.

The current reliance on the chalk aquifer for water supplies across the southern half of Cambridgeshire is unsustainable and already damaging the natural environment. While there are plans for a new fens reservoir to supply drinking water, this will not come on-line until the late 2030s and plans to transfer water from an adjacent region with excess water will not be in place until the early 2030s. In the meantime, our chalk streams and spring-fed wetlands are in a poor condition and continue to decline.

Paradoxically, the internationally important bird populations of the fen washlands are threatened by excess flooding, particularly during their late spring and early summer breeding season. Increased intensity of rainfall events, coupled with improved drainage of agricultural land in the upstream catchment causes larger peak flood flows with increased risk of flooding to communities and habitats downstream.

The Fens' drainage system removes water in winter to protect people, property and land against flooding and maintains water levels in summer for the environment, irrigation and, in places, navigation. Much of the existing infrastructure was put in place to support agriculture but will need upgrades to handle climate change impacts like rising sea levels and heavier rainfall events. The Fens 2100+ partnership and program are developing a long-term plan for managing flood risk in the fens. A 20 – 25year flood and coastal resilience plan will identify more immediate investment needs.

For more information and latest project updates, visit the Fens 2100+ website.



The solutions to drought and over-abstraction on the one hand, and flooding on the other are inter-related. It is not necessarily that there is too little or too much water, it is how we manage the water that is important.

While Cambridgeshire is the driest part of the country, it sits at the lower end of major rivers catchments, and there could be sufficient water if it was stored, rather than the current approach of getting water to the North Sea as quickly as possible. Storing excess winter water in reservoirs or wetlands could support irrigation, public water supply, and groundwater recharge whilst providing environmental benefits. This new approach could benefit people, the economy, and the environment.

There are some short-term solutions. Collection and storage of excess water in winter, through new farm reservoirs or wetlands could provide water for irrigation and even public water supply.

For the Ouse Washes and their internationally important bird populations, there is also a need to store more water in the upper catchment for longer to reduce the volume of flood flows and their peaks particularly during the breeding season. This needs to take place on both farmland and in urban areas. This catchment wide approach could also support the restoration of wetlands on floodplains.

Finally, there is also a need for wider public recognition of the value of water and the need to reduce personal consumption.



Opportunities for nature recovery in water management and aquifer depletion

- promote catchment-scale, nature-based solutions to store more water upstream for longer, including use of farm reservoirs and wetlands.
- work with water companies to ensure new water supply infrastructure considers the impact and opportunities for nature recovery.
- work with the Fens 2100+ project to consider how nature-based solutions can be used to aid management of flood risk.
- promote water saving among the public and support retrofitting of water-saving devices in existing buildings to reduce demand on water supply.
- strongly discourage adding non-porous cover to gardens.

Water quality and excess nutrients

Pollution from agriculture and pollution from agriculture and waste water treatment works contribute to excess nutrients within our rivers and streams. This in turn affects floodplain habitats as nutrient laden flood waters cause changes to the soil conditions and vegetation. This is contributing to a deterioration in the quality of floodplain meadows habitats such as at Portholme and the floodplain wet grasslands of the Ouse Washes.

Nutrient-rich waters also change the composition of the in-stream aquatic plants and adversely affect sensitive aquatic invertebrate species and some fish species.

Point source pollution needs to be addressed at source with upgrades to sewage treatment works. However, there is also a role for wetland treatment systems creating wetland habitats that take up nutrients, whether downstream of sewage plants or inefficient septic tanks.

Farming practices can significantly reduce diffuse pollution through a mixture of wide habitat buffers such as woodlands or grasslands along rivers and ditches, or across sloping fields. Wetland basins and other natural flood management actions such as leaky dams can also slow the flow and prevent nutrient laden silt entering watercourses.



Opportunities for nature recovery associated with water quality improvements

- upgrade sewage treatment works and install downstream wetland treatment systems at waste-water plants or in catchments with a high number of septic tanks.
- promote catchment-scale nature-based solutions including habitat buffer strips to reduce nutrient and soil run-off from fields.

Major infrastructure

Major transport infrastructure such as the A1(M), A14, A428, the national rail network and guided bus routes create barriers to the movement of wildlife across the landscape. There are however options for reducing habitat fragmentation such as the use of green bridges and tunnels for transport infrastructure.

Major energy infrastructure also takes away space for food production and nature recovery, while wind turbines sited in the wrong location can kill birds and bats. However, designed well, solar parks and other energy infrastructure can support nature recovery by using landscaping and new habitats to buffer and connect existing habitats and ensuring that these are well managed.



Proposals within the LNRS will need to consider how existing physical barriers from major infrastructure can be overcome to allow wildlife to move unimpeded across the landscape within the design, construction and operation of major infrastructure.



Opportunities for nature recovery in major infrastructure

- Consider opportunities for overcoming physical barriers of major transport infrastructure to improve landscape permeability for wildlife and people.
- Adopt best practice in the design and management of energy infrastructure such as solar parks and the siting of wind farms.

Urban expansion and population growth

The rapid and continuing increase in developed land area and associated infrastructure is taking land from food production and reducing space for nature recovery. There are however good practice standards for the provision of Green Infrastructure and the sustainable design of new communities. Well-designed new settlements can contribute to nature recovery and an enhanced sense of place and quality of life. Natural England has published the Green Infrastructure Standards²⁰. These have and

are being applied to many of the strategic developments taking place. However, strategic developments only account for about half of new development.

Locally, the 2011 Cambridgeshire Green Infrastructure Strategy set out a coherent set of proposals to enhance the quality and increase the provision of strategic Green Infrastructure to meet the needs of all development across the county. Unfortunately, this has not been comprehensively implemented, and the deficiencies in Green Infrastructure provision have continued to grow.



With the increasing population there has been an increase in demand for access to nature and to the countryside.

This was further heightened during the Covid pandemic. Many local nature sites are small and suffering adverse impacts from human recreational pressures and declining in quality, due to the lack of large-scale open access downland, forests or commons for people to visit.

The Cambridge Nature Network identified a vision and locations for the provision of large-scale strategic natural areas of downland, forest and fen to support the future sustainable growth of Cambridge. In the John Clare Countryside, west of Peterborough, partners are exploring how best to meet the demand for increased access to the countryside in a way that respects the natural environment.

In recognition of this local councils in Greater Cambridge and Peterborough are reviewing their approach to Green Infrastructure needs and provision through their Local Plans. The more rural

districts also need to review green infrastructure provision associated with the growth of their market towns.



Opportunities for nature recovery in and around urban areas

- ensure the LNRS and local Green Infrastructure strategies inform one another and Local Plans to deliver large-scale nature recovery and accessible countryside where possible around our towns and cities.
- implement best practice Green Infrastructure design and provision through all new developments.
- identify opportunities to create, expand and connect natural and other green spaces within urban areas to address the shortage of greenspaces.
- identify improvements to the Rights of Way network to encourage active travel, and enhance wildlife corridors through, between, and around urban areas.
- to encourage people to adopt nature friendly gardening and contribute towards the nature recovery.

Public survey feedback

'I am concerned that our urban gardens are not wildlife friendly' *East Cambridgeshire Resident*





Habitat fragmentation and low percentage habitat cover

Cambridgeshire and Peterborough is a rural area with around 80% of the land farmed, most of which is arable. Urban areas cover another 11% of the county. The remaining natural habitats cover less than 8% of the area and are highly fragmented.

Applying the Lawton Principles to this situation is challenging and could potentially result in a scattergun approach. To effectively deliver nature recovery these principles must be applied in a way that responds to this landscape fragmentation.

Public survey feedback

'Urban restoration is the best chance for people to see nature in their daily lives'
Public survey respondent

Ecological principles suggest that within a particular geographical area, nature recovery and the re-building of species richness and abundance has a greater chance of success where at least 30% of the land area comprises high value habitats²¹.

However, it is neither possible nor desirable to achieve 30% land cover of high-value habitats over the whole of Cambridgeshire and Peterborough because of the importance of farming the continued growth in urban areas and other constraints.

However, there are parts of the LNRS area with higher concentrations of habitats.

Several studies (see list opposite) have mapped habitat networks across the LNRS area and identified those local landscape areas which

provide the best opportunities for re-building a resilient nature network:

- Natural Cambridgeshire's six priority landscapes²²
- John Clare Countryside habitat network mapping
- Great Ouse Valley habitat network mapping
- West Cambridgeshire Hundreds habitat network mapping
- Cambridge Nature Network²³
- East Cambridgeshire Interim Nature Network²⁴
- Fenland Interim Nature Network²⁵
- Huntingdonshire Interim Nature Network²⁶

The local landscape areas identified as priorities for nature recovery have been termed **priority natural landscapes**.

These local landscape areas provide a realistic opportunity for achieving at least 30% habitat cover and are the best areas for applying the Lawton Principles across Cambridgeshire and Peterborough and to focus nature recovery in the short and medium-term.



Opportunities for nature recovery to address habitat fragmentation

- focus nature recovery opportunities within the priority natural landscapes identified through nature network mapping to achieve approximately 30% land cover of high value habitats within these localised areas.

The impacts of climate change

Climate change is the greatest threat to terrestrial and freshwater habitats. Our warming climate is already having dramatic impacts on nature.

Species distribution patterns are being altered and food webs and life cycles disrupted. The impacts of climate change on food production and crop choices could place additional stresses on the natural environment. We are currently headed for nearer 3oC than 2oC warming by the end of the century.

With these changes there is likely to be increased risk of prolonged droughts, increased flooding and a growing threat of wildfires. Pests, diseases and invasive non-native species might spread in unpredicted ways. The impact of sustained severe weather events, multiple extreme events, and

record-breaking seasons poses significant risks to our natural environment.

The UK Climate Change Risk Assessment²⁸ has identified threats to terrestrial and freshwater habitats and species as one of eight priority risks facing the country. Other priority risks included soil health, natural carbon stores and sequestration, and crops, livestock and commercial trees. This means half the country's priority risks are linked in some ways to the wellbeing of our natural environment.

Species adapted to current climate conditions are likely to see their geographical range change. For some species this will increase, while for others such as bluebell, it will decrease, but with a general northwards movement in suitable conditions for many.

The UK national climate projections²⁷ suggest the following headline figures:

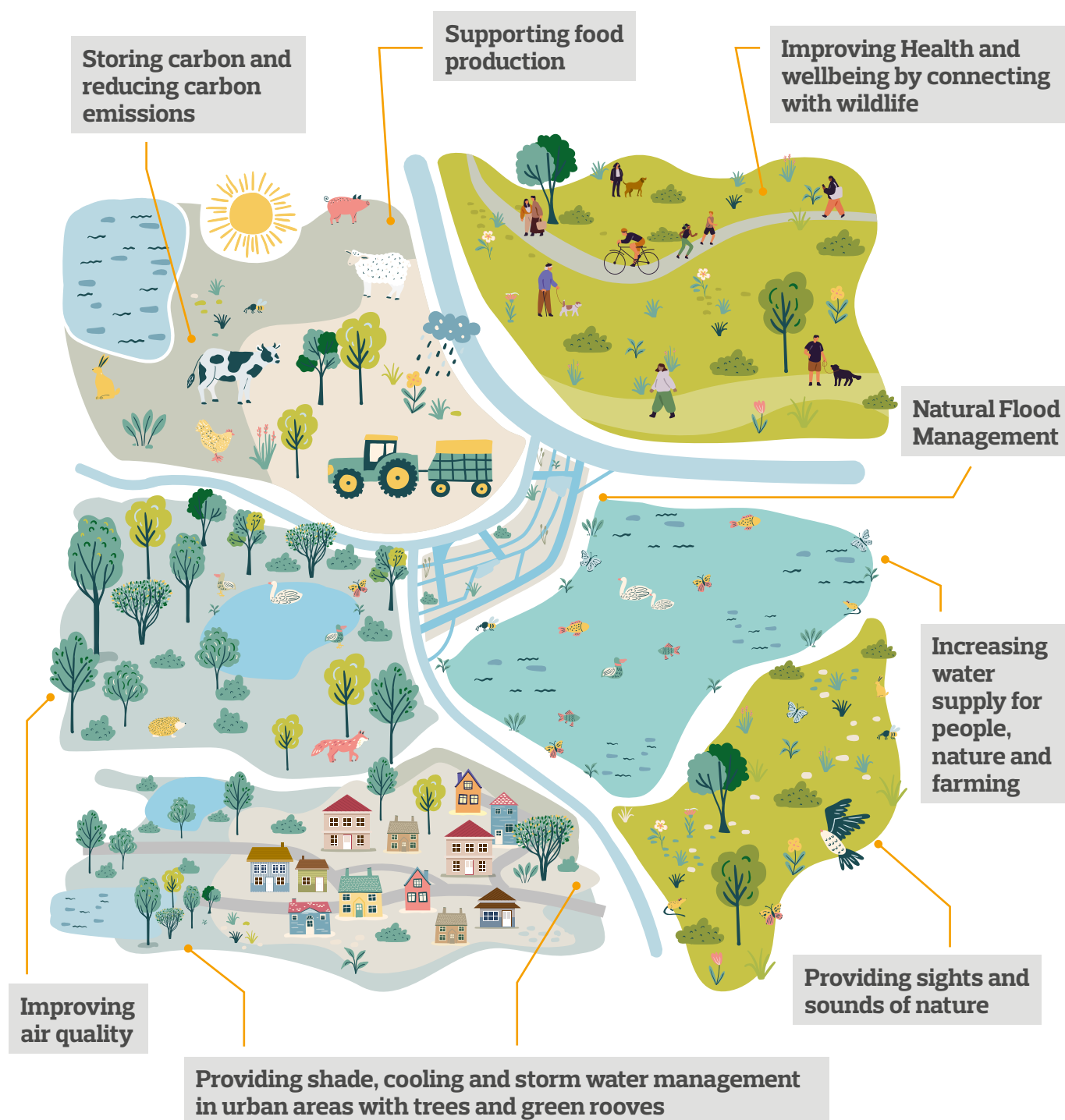
Warming trend	→	all areas of the UK will be warmer by the end of 21st century
Seasonal change	→	increased chance of warmer, wetter winters and hotter, drier summer
Extreme weather	→	increased frequency and intensity of extreme weather events
High temperatures	→	hot summers become more common, with increased hot summer days and more frequent hot spells
Rainfall changes	→	overall trend is for drier summers, alongside future increases in the intensity of heavy summer rainfall events. Changing seasonality of heavy rainfall, more intense rainfall extremes, and increased winter rainfall
Coastal inundation	→	increase to extreme coastal water levels, largely driven by sea level rise. Additional chances of storm surges possible
Soil moisture	→	decreased soil moisture during summers, consistent with lower rainfall
Snow decline	→	almost 100% decrease in lying snow by end of 21st century

Adapting to climate change

Working with nature and supporting nature recovery is one of our best options for mitigating climate risk. There are two ways that action for nature recovery can support mitigation and adaptation to climate change.

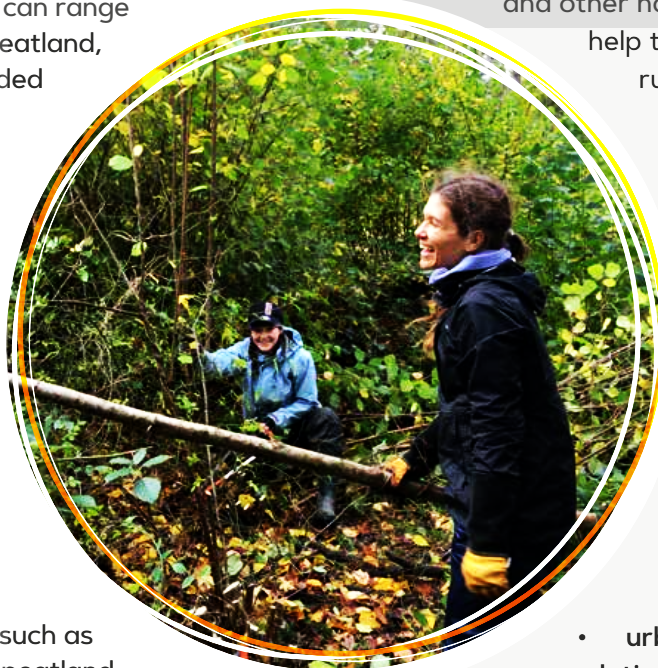
- 1 nature-based solutions:** to support climate and nature goals: Using ecosystem and habitat restoration to reduce impacts such as drought, flooding and extreme heat through the natural processes and ecosystem services that nature provides..
- 2 support nature to adapt to climate change:** Reducing the impact of climate change on biodiversity and increasing resilience through building a resilient nature network to allow species to move in response to the changing climate.

Nature-based solutions (NbS)



Nature-based solutions are solutions to problems faced by society that are provided by the natural environment. These can range from the carbon stored in peatland, to flood management provided by wetlands, to the cooling and shading from urban trees. Critically they must provide both benefits to human well-being and biodiversity. They are a way of supporting nature's recovery in a way that creates other benefits to society and the economy.

There is an increasing demand from public and private sectors for nature-based solutions. Standards such as the woodland carbon code, peatland carbon code, and biodiversity net gain metric are delivering nature-based solutions in a verifiable and measurable way. Further market-led developments are expected to bring private finance to support nature-based solutions over the next few years.



- **water supply & aquifer recharge:** Wetlands and other habitats on the chalk can help to retain rainwater and runoff from fields and allow it to percolate back into the soil to recharge the aquifer.
- **food production:** Nature can support food production by providing habitats to support larger populations of pollinators and predators of crop pests.
- **urban nature-based solutions:** These can help to improve the liveability of our towns and cities as well as improve health and wellbeing. Street trees and vegetation can improve air quality, provide shade, reduce heating, and support wildlife to bring the sights and sounds of nature closer to people. These can encourage physical exercise and improve mental health.



Opportunities for nature-based solutions locally include:

- **carbon emission reductions and sequestration:** Most habitat creation will offer carbon sequestration – the absorbing and storing of carbon – whether in the vegetation or soils. Protecting the lowland peat soils in the Fens from further erosion is the biggest opportunity locally to reduce carbon emissions.
- **natural flood management:** Holding more water back in upper catchments, particularly on clay soils, through the use of new wetland areas, leaky dams and woodland planting helps to reduce flooding downstream. The naturalisation or “re-wiggling” of rivers, improving channel structure and reconnecting rivers to floodplains provides more wetland habitats as well as reducing flood risk.
- **improved water quality:** Many of our water bodies are in a poor state due to pollution. Wetlands can help clean water as can buffer strips and woodland along watercourses.

Restoring natural processes to our land and water management can be more cost effective by requiring less human intervention in the longer-term. The use of more extensive or natural grazing regimes, allowing natural regeneration of woodland and the re-naturalisation of rivers are all examples of working with nature. However, doing this requires more space for nature to allow species to adapt. It is also messier, creating more varied habitats and mosaics of habitats that change in space and time.



Opportunities for promoting more natural processes locally include:

- restoring lowland peatlands so they are better able to absorb carbon.
- using a mix of free-roaming grazing animals at a low density to create dynamic mosaics of flower-rich grassland and scrub or wood pasture and provide high quality meat and lower emissions from the animals..



Continued from previous page

- managing woodlands so they have a greater diversity of habitats including open spaces, a dense shrub layer and lots of deadwood. Introducing grazing animals into larger woods and keeping deer populations at levels where they do not prevent regeneration of trees.
- creating new woodlands and areas of scrub through natural regeneration and promoting natural regeneration in existing woodlands.
- restore rivers to a more natural state by 're-wiggling', reconnecting rivers to floodplains, creating more varied river channels and restoring floodplain and river edge habitats..

In many areas the existing farming or other land uses will restrict what can be achieved in terms of re-instating natural processes. However, there are still opportunities to undertake more traditional small-scale conservation on all productive farmland and within our urban areas.

Supporting nature to adapt to climate change: the most important



response to climate change for mobile species, such as birds and mammals, is to ensure an ecologically connected landscape, that enables them to move in response to a changing climate.

However, for less mobile species, particularly some invertebrates and plants, specific habitat management actions and larger sites with more varied habitats may be needed to increase their chances for survival.

The application of the Lawton Principles is critical to providing space for nature to adapt to climate change.

Restoring nature: a way forward

There are multiple competing demands for how we use land, especially here in Cambridgeshire and Peterborough. This LNRS has been written so that other competing demands can be accommodated alongside gains for nature, including:

- maintaining our status as the 'breadbasket' of England.
- enabling much needed new homes, businesses and infrastructure to be provided where they are needed most.
- reducing our carbon emissions, as we contribute to minimising global climate change.
- preserving and enhancing clean and adequate flows in our water courses.





There are two key approaches underpinning nature recovery:

- 1** the Lawton Principles: Better, bigger, more, and joined
- 2** natural capital and ecosystem services

Source: Lawton (2010) Making Space for Nature

The Lawton Principles highlight the need for a more coherent and resilient ecological network by improving habitat quality, expanding nature sites, increasing connectivity, and promoting nature-friendly land use.

These principles have formed the basis for identifying the opportunities for nature recovery in this LNRS.

Natural capital and ecosystem services

Ecosystem services are the services that nature provides when it is functioning as it should. Damage to nature means our natural environment is less able to provide the many services upon which we depend.

Natural capital is the 'stock' of natural resources (for example, plants, animals, air, water, soils, minerals). From this stock, we receive ecosystem services such as healthy soils, crops, pollination, timber, clean air, clean water, and so on. **Ecosystem services** is shown diagrammatically below.



Source: <https://www.southdowns.gov.uk/wp-content/uploads/2018/04/Core-05-Ecosystem-Services-Background-Paper-April-2018.pdf>

A Natural capital assessment was undertaken for Cambridgeshire and Peterborough in 2022. This study found:

- woodlands and some of the fenland nature reserves had the highest capacity to provide ecosystem services.
- river corridors were highlighted as particularly effective at bringing habitats delivering high levels of ecosystem services right into the heart of urban areas, especially in Peterborough, Huntingdon and St Ives.
- most land (81.7%) in Cambridgeshire is in poor condition, primarily due to the predominance of arable and improved grassland habitat, and the extent of domestic gardens and amenity grassland.
- most of the Ouse Washes is also considered to be in poor condition.

- the total monetary value of public benefits provided by greenspaces each year was estimated to be a minimum of £377 million.
- the vast majority of opportunities to improve water quality by reducing soil erosion are located adjacent to watercourses and are found predominantly in the fens and claylands.

Understanding the ecosystem services provided by habitats in Cambridgeshire and Peterborough has helped in the prioritisation of nature recovery opportunities.

Did you know?

Natural Capital Assessment – a method for quantifying the total value of natural capital (resources such as water, air and soil quality) within a region.

The information provided in Part 1 of the Local Nature Recovery Strategy provides the context and background to the priorities and actions set out in the following Part 2.



Nature Recovery in Action

Working together we can bring about Nature's Recovery, in spite of the challenges we face. In Cambridgeshire and Peterborough, it is thought that we started to turn the tide in habitat loss about 2000.

Since this time more habitats have been created than lost, whether new woodlands, natural greenspaces in new developments or large-scale wetland restoration schemes in the Fens and through restoration of mineral sites.

Great Fen

Location: Between Huntingdon and Peterborough, centred around Woodwalton Fen and Holme Fen

The aim is to restore nature at scale to increase biodiversity, access to nature and reduce carbon emissions.

The Great Fen is a partnership between the Wildlife Trust BCN, Natural England, Middle Level Commissioners, Huntingdonshire District Council and Environment Agency. The Wildlife Trust and Natural England now own over 60% of the land. Over the first 20 years, relatively small-scale wetland creation has taken place, limited by the need to protect neighbouring farmland from flooding. However, over the next five years, two farms adjacent to Woodwalton Fen will be completely re-wetted. In future, further areas will be re-wetted as farm tenancies come to an end.

The Great Fen has also been involved in several major research projects looking at lowland peat and the potential to reduce carbon emissions in the Fens. The Great Fen initiated a trial paludiculture (wet farming) project and this has been the catalyst for the farming sector to explore the potential for wet farming in the Fens and alternative farming systems that will significantly reduce carbon emissions.

Community engagement has been at the heart of the project from the outset, introducing new audiences to nature, as well as connecting with the local population to explore the benefits of nature recovery at the Great Fen to them.

Find out more at www.greatfen.org.uk



Did you know?

The Great Fen is a long-term initiative to create 37 square kilometres of new wetlands, meadows and woodlands, connecting, buffering and expanding the nationally important wetlands of Woodwalton Fen and Holme Fen.



Wicken Fen

Location: Between Cambridge and Wicken, based roughly on the Swaffham Internal Drainage Board district but not limited to it.

Our vision is an expanded area of fenland that contains a network of wildlife-rich habitats.

Did you know?

The Wider Wicken Vision is an ambitious 100-year plan covering 5,300ha between Wicken Fen and the edge of Cambridge. Our aim is to increase biodiversity, reduce carbon emissions, and increase access to nature.



Working in partnership with stakeholders and landowners this landscape will buffer and protect Wicken Fen, one of the UK's most biodiverse sites and one of the last remaining fragments of undrained fen in East Anglia. It will provide better access to nature in an area with limited greenspace and significant growth, benefitting local people's health and wellbeing.

We are responding to the decline in nature and unequal access for people to nature – and are aiming to do more, now, within the context of a productive agricultural landscape and area of significant development.

The Wider Wicken Fen Vision celebrated its 25th anniversary this year. The Vision was conceived in 1999 on the 100th anniversary of the National Trust's first acquisition at Wicken Fen. Its aim was to expand the nature reserve to the edge of Cambridge, restoring fen and wetland habitats, and to provide a landscape-scale space for wildlife and people. Selected as one hydrological unit, the Vision was one of the first re-wilding projects in the UK, restoring natural processes through careful water management and extensive grazing by Konik ponies and highland cattle on newly acquired land. The Vision epitomises and influenced the development of the Lawson principles: bigger, better and more joined up.

Find out more at www.nationaltrust.org.uk/visit/cambridgeshire/wicken-fen-national-nature-reserve/wicken-fen-vision



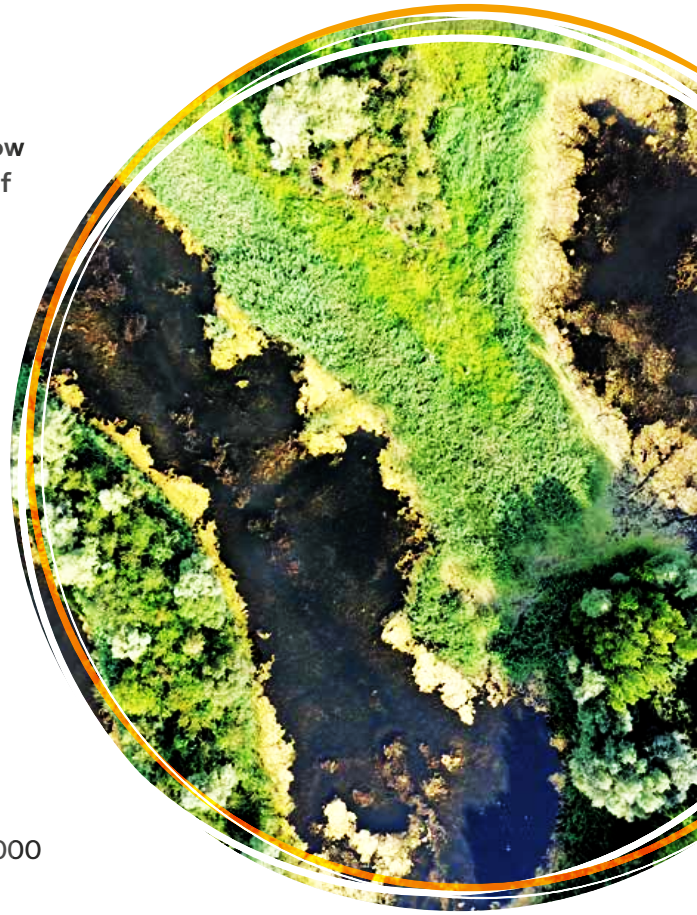
Ouse Fen

Location: Needingworth, Cambridgeshire

With a 30-year lifespan, this carefully planned project is now more than half complete with more than 16 million tonnes of aggregates quarried from the site so far.

The project has been designed to create high value habitats for target species and incorporate significant public access. In the last 20 years the site has become important for rare species such as the secretive Bittern, known for its loud booming calls in Spring, Marsh Harrier and Bearded Tit.

- 3 square km has been restored to wildlife-rich wetland so far.
- The site already holds up to 12 booming male Bitterns, 8 nesting Marsh Harriers and a pair of European Cranes annually.
- Water Voles and Otters have established themselves across the reserve alongside 22 different species of dragonfly.
- Around 19km of trails have been opened to date with 15,000 visitors a year.



Did you know?

Since 1999 the RSPB has been working in a wetland creation project partnership with the minerals sector at Needingworth Quarry, one of the largest sand and gravel extraction sites in the UK, to create Ouse Fen nature reserve.



Trumpington Meadows and Cambourne

Location: Trumpington, Cambridge, and Cambourne, South Cambridgeshire

Trumpington Meadows was conceived as part of a planned southern extension to Cambridge in the noughties.

The development of the former Plant Breeding Institute research site by Grosvenor includes 1200 new homes and an extension of the strategic green corridor along the River Cam into Cambridge city centre. The Wildlife Trust BCN were chosen as the organisation to manage the new greenspace and now own the nature reserve. Trumpington Meadows nature reserve is 58 hectares in size and stretches for 1 Km along the River Cam. It includes 50 Ha of new flower-rich meadows, as well as ponds, hedges, new woods and an extensive network of surfaced and grass paths. It is well used and popular with new and existing residents alike.

Did you know?

Cambourne has recorded most productive skylarks in Britain (more young per nest per year recorded than anywhere else in Britain)

An independent, retrospective Biodiversity Net Gain analysis showed that the development delivered a 43% net gain in biodiversity using the Defra Metric.

Cambourne was conceived in the 1990s as three linked villages surrounded by a network of natural greenspaces. Cambourne was developed on intensive arable farmland, with few natural features. However, those natural features present including four small woodlands, a historic hedgerow and several ponds were retained and formed the framework for the network of green infrastructure.

This network surrounds and passes through Cambourne. In total, over 60% of the development site is allocated to green infrastructure with over 15 Km of new paths. It is managed by Cambourne Town Council and the Wildlife Trust BCN. Cambourne has become a popular destination for families to live, not least because of the green spaces.

Did you know?

The small blue butterfly which was at risk of extinction in the area (county/C&P) is now thriving at Trumpington Meadows.

Further Case Studies of nature recovery in action are included in Supporting Document 6.

The information provided in Part 1 of the LNRS provides the context and background to the priorities and actions set out in the following Part 2.

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Introduction

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Early marsh orchid © National Trust, Rob Coleman

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Etton Maxey Pitts, John Clare Countryside © Pamela Abbott

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Wicken Fen sunrise © National Trust, Rob Coleman

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Cambourne © Pamela Abbott

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Cambourne © Wildlife Trust, Bedfordshire, Cambridgeshire and Northamptonshire

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Photo competition winner, Ely sunrise © Chris Barton

Glossary

Abstraction

The removal of water from its natural source for human use.

Agri-environment schemes

Set up by the Department for Environment, Food and Rural Affairs (Defra), these schemes provide funding for farmers and landowners to manage their land in a way that aids biodiversity and the air, water and soil quality of the land.

Biodiversity

The variety of species to be found within a particular area. A wide variety of species is an excellent indicator of ecosystem health.

Calcareous grassland

Grassland situated on a chalk or limestone soil, relatively rare in the UK and an important habitat for those plant species adapted to this soil type.

Carbon sequestration

Any process that converts carbon dioxide in the atmosphere into stored carbon, preventing it from acting as a greenhouse gas.

Catchment-scale

The entire geographical area that drains water into a river or other water body, also known as the 'catchment area'.

Chalk streams

Streams that come from springs in chalk bedrock. They are characterised by clear water and a diverse number of plant species.

Colonisation

The movement of a species into a new area.

County Wildlife Sites (CWS)

See Local Wildlife Sites.

Droves

Roads within the Cambridgeshire Fens that were originally used to move livestock.

Ecosystem

The species and physical environment existing within a particular area. It is referred to as a system due to the back-and-forth interactions between both species and their environment.

Ecosystem Services

Benefits that humans derive from a thriving ecosystem, such as improved water and air

quality, climate regulation, provision of resources, and improved health and wellbeing.

Eutrophication

An increase in nutrients within a body of water, often caused by fertiliser run-off, that can cause algal blooms that deprive the water of oxygen and harm or kill animals living within the water.

Fenland SOIL

A not-for-profit organisation that aims to develop farm policies to help achieve climate change mitigation and improved biodiversity within the Fenland region.

Fragmentation

The breaking up and separation of similar habitats into smaller parts. This can have a negative effect on the movement and reproduction opportunities for a species.

Germination

The process by which a plant develops from its seed.

Grade 1 and 2 land

An agricultural land classification that determines the quality of existing farmland or undeveloped land. Grade 1 and Grade 2 land is considered 'excellent' and 'very good' respectively.

Green infrastructure

Building projects with ecosystem services at the forefront of its development.

Groundwater recharge

The movement of water downwards from surface water to groundwater.

Habitat network mapping

Mapping undertaken to identify areas that provide the best opportunities for re-building a resilient nature network. The areas identified comprise the six priority natural landscapes within the region.

Herbicides

A type of pesticide targeted at plants.

Insecticide

A type of pesticide targeted at insects.

Invasive species

Any non-native species that has been introduced and is harmful to its new environment.

Invertebrate

Any animal without a backbone, such as insects, spiders, and crayfish.

Landscape Character Areas

Landscape Character Areas are regions that share distinct and recognisable landscape characteristics such as geology, vegetation and land use.

Landscape Character Assessment (LCA)

Landscape Character Assessment is the process of identifying and describing variation in character of the landscape.

Landscape-scale approach

A nature conservation approach working with farmers and landowners across entire landscapes rather than individual sites.

Lawton Principles

Principles from the 'Lawton Review' paper, set out in 2010 and commissioned by the Environment Secretary. The key principles are that nature sites should be more, bigger, better, and joined up.

Local Nature Reserves (LNR)

Nature reserves established by local authorities they are places with wildlife or geological features that are of special local interest.

Local Wildlife Sites (LWS)

Areas of land that are especially important for wildlife. They are identified and selected locally using scientifically-determined criteria and surveys.

Mapped actions

These are actions for the priority habitats that have been mapped onto the local habitat map. Mapped actions are eligible for Biodiversity Net Gain (BNG) uplift.

National Character Areas

159 Character Areas have been established by Natural England, covering the entirety of England. Each area represents a distinct and recognisable region based on landscape features rather than county or district boundaries.

Natural capital

The value of resources naturally available, such as water, air, and soil.

Natural Capital Assessment

A method for quantifying the total value of natural capital (resources such as water, air and

soil quality) within a region.

Nature Recovery Network

See Priority Natural Landscapes.

Nature-based solutions

Actions taken that are designed to protect and restore existing ecosystems to benefit both people and nature.

Neonicotinoids

A specific class of insecticide. Its name comes from the fact they are chemically similar to nicotine. They are banned from general use in the UK.

Nitrates

Chemicals that are a common component of fertilisers. Along with phosphates, their existence in water bodies are responsible for the process known as eutrophication.

Nutrient enrichment

See Eutrophication.

Paludiculture

Farming on rewetted peat, for the production of wetland crops.

Pesticides

Any chemical substance used to control species considered pests. They can be damaging to the wider environment by entering water through agricultural run-off.

Phosphates

Chemicals that are a common component of fertilisers. Along with nitrates, their existence in water bodies are responsible for the process known as eutrophication.

Point source pollution

The point at which pollution is discharged, such as a sewage pipe or ditch.

Pollarding

A technique for regularly cutting back trees to their trunk. It encourages a denser and stronger tree canopy.

Priority natural landscapes

These are six priority areas set out by Natural Cambridgeshire for nature recovery. The areas include the Connected Fens, John Clare Countryside, Nene Valley, Great Ouse Valley, West Cambridgeshire Hundreds, Cambridge Nature Network.

Ramsar sites

these are wetland sites designated as being of international importance, as defined by the Ramsar Convention on Wetlands.

Regenerative agricultural techniques

techniques used for farming that emphasises methods such as minimal soil disturbance and composting, to ensure a healthy, regenerating layer of topsoil.

Semi-natural grassland

grassland that is naturally occurring, without fertiliser or herbicide applied to it, but is managed through mowing or livestock grazing.

Sites of Special Scientific Interest (SSSI)

a government designation applied to those sites that support characteristic, rare or endangered species.

Special Areas of Conservation (SAC)

areas designed to protect species outlined within the European Union's Habitats Directive. Together with Special Protection Areas, they form part of the UK's national site network.

Special Protection Areas (SPA)

protected areas for birds in the UK, designated under the European Union's Bird Directive. Together with Special Areas of Conservation they form part of the UK's national site network.

Species assemblages

the full list of species that live within a particular habitat.

State of nature reports

reports on species from the State of Nature

Partnership. They use data from biological monitoring and recording schemes to provide a benchmark for species populations throughout the UK.

Stewardship

management that involves the responsible use of natural resources.

Supporting actions

these are actions for the priority habitats that are not stand-alone, but help carry out the mapped and unmapped actions more effectively.

Terrestrial

species that are based on land, as opposed to water.

Unmapped actions

these are actions for the priority habitats that are too broad to be mapped to a specific location, so do not appear on the local habitat map. Unmapped actions are not eligible for Biodiversity Net Gain (BNG) uplift.

UK priority species

those species that were identified by the Joint Nature Conservation Committee as the most threatened within the UK.

Unimproved grassland

areas of grassland that have never been used for agriculture.

Wider environmental benefits

benefits that include both improving the natural environment and improving human health and wellbeing, such as improved air quality and closer access to nature.



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COMBINED AUTHORITY



Cambridgeshire and Peterborough
LOCAL NATURE RECOVERY STRATEGY

Enquiries email localnaturerecoverystrategy@cambridgeshire.gov.uk
or visit NaturalCambridgeshire.org.uk/lnrs