



**Sussex
Nature Recovery**
A collective blueprint for targeted action



West Sussex Local Nature Recovery Strategy

Statement of Biodiversity Priorities
Part 1 – Context & Description of Strategy Area

Draft for consultation



Cover image

📷 Views of the South Downs
around Midhurst, West Sussex
© Sam Knight/unsplash.com

Illustrations

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Section 1.

Introduction

📍 Wetland Intertidal Mudflat,
Chichester Harbour, Thorney Island
© Ben Rainbow



SussexNatureRecovery.org.uk



Foreword

To be written by an elected member after the public consultation.



Overview

This Local Nature Recovery Strategy sets out the main principles and priorities for nature recovery in West Sussex and the actions needed to deliver them.

West Sussex is blessed with nationally and internationally important biodiversity. Nature shapes our iconic landscapes; more than half of the area is designated for its natural beauty. Our ecosystems support our health and wellbeing and provide us with many benefits and services such as carbon storage, clean water, flood risk reduction and pollination. Nature also underpins vital sectors within our economy such as farming and tourism.

But nature is at risk. Many of our important sites are under pressure from impacts such as development, disturbance and pollution. Most are too small and fragmented to function as they should. Some of our most precious habitats have been lost and degraded and many of our species are at risk of extinction. The quality of our water systems has been compromised while water scarcity is a significant concern for the future. Climate change impacts such as drought, flooding, storms and erosion further threaten the health of our habitats and species, and in turn, our own.

Addressing these systemic challenges requires us to think big. We need to hold on to what we have and make it better, enhancing our important sites and habitats and making them more resilient into the future. We need to support this through the creation of more nature-rich areas, forming a network of 'bigger, better, more and joined-up' habitats and sites. We need to use nature more effectively as part of the solution to challenges such as flood risk, poor water quality and increasing temperatures in our towns and cities.

Across West Sussex there is a lot of incredible work already happening for nature. Bold, new initiatives are gaining traction and inspiring action; dedicated efforts continue to conserve and nurture our natural environments over the long term; partnerships are bringing councils, landowners, community groups and environment experts together; community action is thriving with individuals and groups making a difference at the hyper local level.

To bring about the type of change needed to move from 'nature's decline' to 'nature's recovery', **we need to build on this and move into the next 10 years, sustaining and growing the level of action for nature and harnessing it to deliver a collective, focused and shared ambition for its recovery.**

📍 The High Weald National Landscape, an Area of Outstanding Natural Beauty, is one of three protected landscapes in West Sussex.
© iStock.com/Matthew J Thomas



The role of the Local Nature Recovery Strategy (LNRS) is to guide this recovery.

This LNRS starts by providing, for the first time:

- a **comprehensive description** and in-depth catalogue of our most important habitats and species;
- a summary of the wider benefits and services nature provides and the main pressures and threats;
- **24 habitat priorities** and **163 priority species** with **detailed measures (or actions) that can support their recovery**, building on **seven key principles**;
- a **Local Habitat Map showing where action can best deliver the greatest benefit** (though there are many actions that can be taken, regardless of location, that will benefit nature even if not mapped).

📷 A walking safari organised by Friends of the Adur SSSI with guides from Shoreham District Ornithological Society highlights the Adur's rare fauna and flora.

© Friends of the Adur SSSI



This LNRS brings together expertise and knowledge of existing projects and initiatives for nature that are already underway and acts as an 'umbrella' for them – providing a wider context and a mechanism through which to coordinate and direct action at all scales. In an era of scarce funds and resources for nature, it shows us where we should be strategic in focusing our effort and why. For those working at a more localised level, its measures are designed to be as practical and as relevant to local conditions as possible.

More than a thousand people across West Sussex were involved in the development of this LNRS, from leading species experts and large estate owners, to residents and representatives from community groups and parish councils. Locally led, and developed through a collaborative process, it sets out a consensus about how and where our actions will deliver the most benefit for nature and people.

But this LNRS cannot deliver nature's recovery on its own and is not intended to do so. It is limited in its legal scope, focusing primarily on where and how we can create and enhance habitats or support species. It cannot confer added protections to land or tackle pressures on nature that are covered by other regulatory mechanisms, such as pollution or development. It cannot force anyone to deliver what it sets out or includes on its maps and it does not come with direct sources of government funding for implementation on the ground.

What it does though, is for the first time, provide all those interested in nature's recovery in West Sussex with **a single set of priorities and actions for nature's recovery to rally behind, seek funding for and work together to deliver on the ground.** With its statutory footing and collaborative, participative approach, it provides confidence for funders, investors, landowners and delivery partnerships on the actions and locations that will deliver the greatest benefits for nature.

Formally, it has an important role to play as a new source of evidence for local planning and local government decision-making processes. It also helps to direct new habitat creation from Biodiversity Net Gain to where this would be most beneficial in terms of restoring, expanding, buffering and connecting existing habitats. More informally, it provides a guide for any interested organisation, community group or individual (at whatever scale) to understand how their actions could make an important contribution to a wider county-wide ambition for nature. It specifically highlights the importance of urban nature and seeks to encourage actions which individuals, local authorities and businesses can take to bring more nature into our villages, towns and cities.

This is the first LNRS to be prepared for West Sussex and has been prepared alongside the LNRS for East Sussex and Brighton & Hove to reflect the long-standing 'Sussex-wide' approach to nature and the common stakeholders that work across this wider area. It is part of a suite of 48 LNRSs across the country, they are intended to guide action for nature over the short to medium term (8-10 years). But for West Sussex, this LNRS also provides us with an important benchmark for our 'state of nature' against which we can measure future trends and the effectiveness of our actions. Whilst not a delivery plan, it does provide a sound basis for one and that will be our next step.

We all can and need to do more for nature. This Local Nature Recovery Strategy helps us do that. It sets out the journey for realising the recovery of nature across West Sussex and the wider benefits this will provide for people, society and our economy.

📷 The Platinum Jubilee County Park in Chichester was designed as a SANG (Suitable Alternative Natural Greenspace) so that it can provide informal recreation while protecting local biodiversity. It has meadow grassland, wetland trails, boardwalks, benches and native scrub to support wildlife.

© Don Baker



Section 2.

About Local Nature Recovery Strategies

📷 Torpid dormouse in nest
© Kate Ryland



2.1 Nature needs our help

Wildlife across the world is in crisis. Between 1970 and 2020, populations of amphibians, birds, fish, mammals and reptiles plummeted by 73% on average ([2024 WWF Living Planet Index](#)). Over the same time frame, it is estimated that we have lost 50% or more of our insects.

When species populations fall, whole ecosystems can weaken and even collapse. This not only impacts the species within that system, but the benefits these ecosystems[◊] provide to people which we often take for granted, such as clean air and water, [pollination](#)[◊], [carbon storage](#)[◊] and the positive impact that the natural environment has on our [health and wellbeing](#)[◊].

In the UK, trends in our wildlife have been measured by the [State of Nature Partnership](#). Their reports provide a comprehensive review of our biodiversity[◊].

Why is nature declining?

Space for nature is being squeezed or is deteriorating across the world.

The [habitats](#)[◊] on which species depend are increasingly:

- **Lost** – replaced by urbanisation, industrial farming or infrastructure development.
- **In poor condition** – pollution, climate change, [invasive species](#)[◊], more [intensive agriculture](#)[◊] and a decline in [traditional land management practices](#)[◊] are some of the pressures on habitats, reducing their health and their ability to support wildlife.
- **Fragmented**[◊] – pockets of habitats become smaller and more isolated from each other, so are less able to cope with pressures. Fragmentation also means many [species](#)[◊] can no longer move safely across the landscape, which limits their ability to find food, breeding partners, shelter and escape from predators.

The 2023 State of Nature report revealed:

- **1 in 6 UK species is at risk of extinction**
- **A 55% decline in farm birds since monitoring began in the 1970s**
- **More than half of our plants have decreased their [distribution](#)[◊]**
- **The UK is one of the most nature depleted countries in the world**

Words underlined in purple with a diamond symbol ◊ are defined in the [Glossary](#)



2.2 Some of the habitats and species in decline in West Sussex

Habitats



Chalk grassland

80% of the UK's chalk grassland has been lost since WWII making South Downs chalk grassland one of the rarest habitats in the country ([South Downs National Park](#)).



Heathland

85% of the UK's heathland has been lost ([Heathland and moorland](#) | [The Wildlife Trusts](#)).



Hedgerow

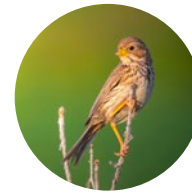
Hundreds of miles lost since WWII ([Hedgerows – British Habitats – Woodland Trust](#)).



Saltmarsh

Chichester Harbour has lost 58% of this biodiversity-rich habitat since 1946 ([Chichester Harbour Conservancy](#)).

Species



Corn bunting

82% decline since the 1960s and considered lost in neighbouring Surrey ([Sussex Ornithological Society](#)).



Mouse-eared bat

Declared extinct in the UK in 1992 when the last known maternity roost was lost. Since then, just two single individuals have been found hibernating in West Sussex ([Living Coast](#)).



Water vole

Critically low – estimated loss of over 90% in the last 30 years ([Sussex Wildlife Trust](#)).



Hedgehog

Vulnerable to extinction – between 30-75% of UK hedgehogs lost since 1950s ([Hedgehogs – People's Trust for Endangered Species](#)).

Habitats (top to bottom): Chalk habitat © D Alcroft; Elm tree © iStock.com/Ban Yue Rong; Heathland © iStock.com/HerbySussex; Hedgerow © D Alcroft; Saltmarsh © Paul Adams
Species (top to bottom): Corn bunting © iStock.com/Wirestock; Mouse-eared bat © iStock.com/Remus86; Water vole © iStock.com/Rachel Bennett; Hedgehog © Darin Smith



2.3 What we need to do

We need to make our natural environment healthier, more plentiful, and more resilient. That means creating more of the habitats that support our species, and making existing habitats bigger, better, and more connected to each other.

Our land has multiple uses. It supports nature and the wider benefits that healthy ecosystems provide, such as improved air and water quality, carbon storage, temperature regulation and flood protection. It is also where we grow our food, where we live and work; it provides space for our recreation and is vital to our economy.

All of these things are important, so we need to work more collaboratively and with better coordination at the local level to identify where we can work with nature, and where action for nature can be delivered that is both achievable and will have most impact.

Local Nature Recovery Strategies are a new way to help us do that.

2.4 What are Local Nature Recovery Strategies?

The [Environment Act 2021](#)^o contains plans and policies for improving our natural environment. It includes the production of [Local Nature Recovery Strategies](#)^o, a new initiative to drive more collaborative action for nature.

48 strategies are being produced to cover the whole of England, each led by a [Responsible Authority](#)^o chosen by the Secretary of State.

West Sussex County Council was appointed to produce the first [Local Nature Recovery Strategy \(LNRS\)](#)^o to cover the county.



© iStock.com/Paul Bradbury

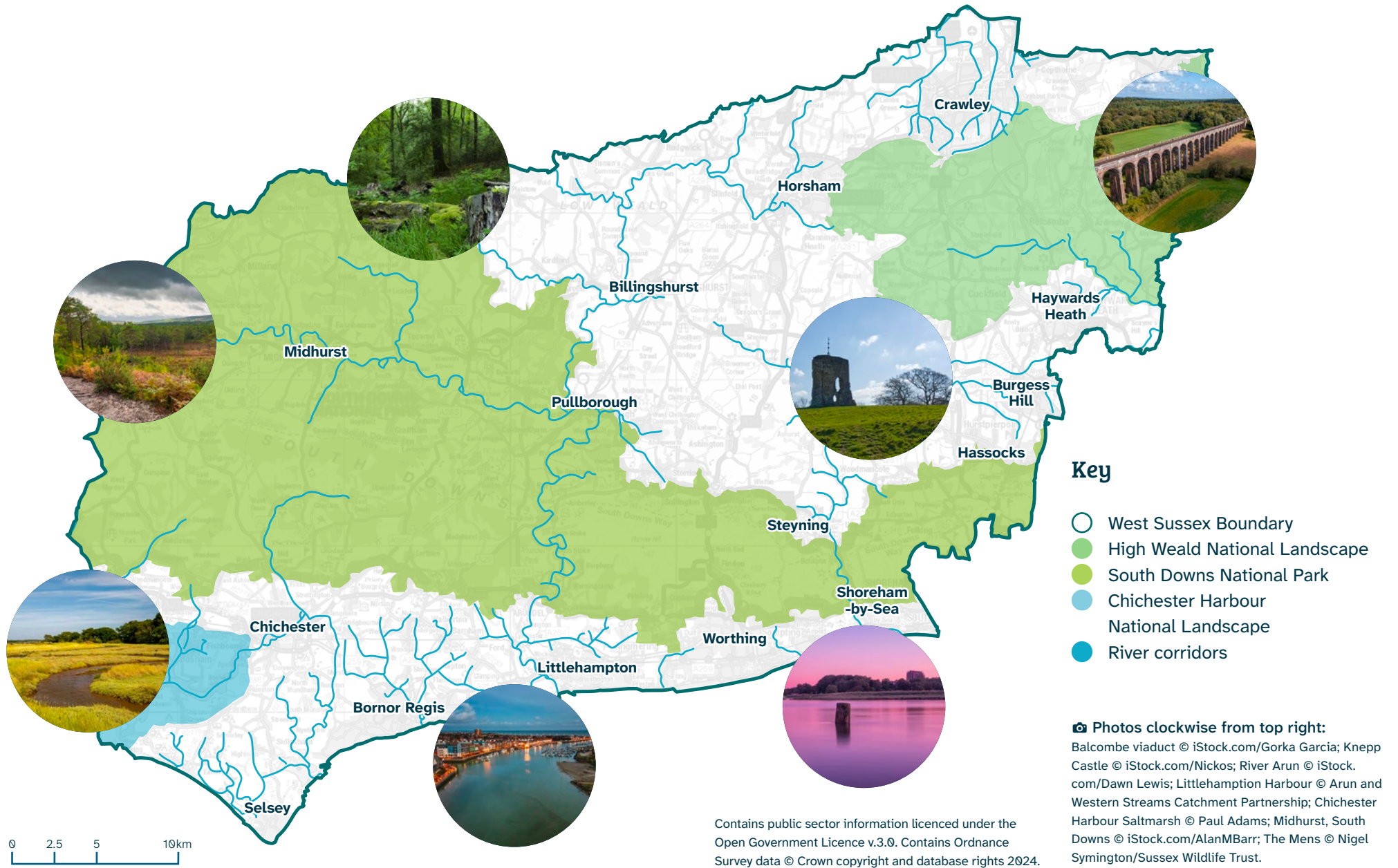
2.5 Our LNRS area

The West Sussex LNRS area covers about 2025.6km² and lies along the south coast of England. It is bordered by Hampshire to the west, East Sussex and Brighton & Hove to the East, and Surrey to the north, with the English Channel to the south. Urban settlements are near continuous along the coast and include Bognor Regis, Littlehampton, Worthing and Shoreham. The central part of the county is largely rural but Crawley (the county's largest settlement) and Horsham lie in the north-east and the city of Chichester lies in the south-west. In terms of governance, West Sussex County Council is the upper tier authority, with the county further subdivided into six districts (Chichester, Arun, Adur & Worthing, Horsham and Mid Sussex) and one borough (Crawley).

More than half of the LNRS area is designated for its natural beauty: 40% lies within the South Downs National Park and a further 13% is within either Chichester Harbour or High Weald National Landscapes^o. It has a long history of human settlement dating back to the lower palaeolithic, and has nationally renowned landmarks including Fishbourne Roman Palace and the Iron Age Chanctonbury and Cissbury Ring hill forts. It is also home to Gatwick Airport, the UK's second busiest airport by total passenger traffic. Four main rivers, the Western Rother, Arun, Adur and Ouse, drain from north to south into the English Channel, as well as the smaller Lavant and Ems.



Map 1: West Sussex LNRS area



2.6 What LNRs aim to do

Local Nature Recovery Strategies are designed to be **evidence-based, locally led** and **collaborative**. They follow statutory guidance and meet [Regulations](#).

Each strategy describes the area's current biodiversity in terms of the habitats and species found in our terrestrial and coastal environments. They highlight the pressures on biodiversity in the area, and the opportunities⁹ and priorities⁹ for enhancing it.

Crucially, they also set out how and where action can be taken across the LNRs area that will make a particular contribution to achieving the priorities.

By doing so, Local Nature Recovery Strategies will:

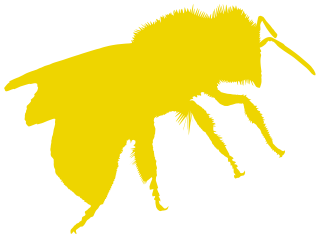
- Focus future effort and funding into local priorities for nature, including [Biodiversity Net Gain \(BNG\)](#)⁹;
- Aid collaboration by enabling public, private and voluntary sectors to work more effectively together;
- Guide local planning, informing public authorities' strengthened duty to conserve and enhance biodiversity;
- Identify opportunities for 'nature-based solutions'⁹ to wider environmental problems like flooding, climate change or poor water quality;
- Improve targeting – ensuring the right things are done in the areas where they will be most effective.

📷 Caroline Harriott, Director of the Arun to Adur Farmers Group shares the actions for nature taken by the cluster to improve soil health and biodiversity. © D Alcroft



2.7 The scope of Local Nature Recovery Strategies

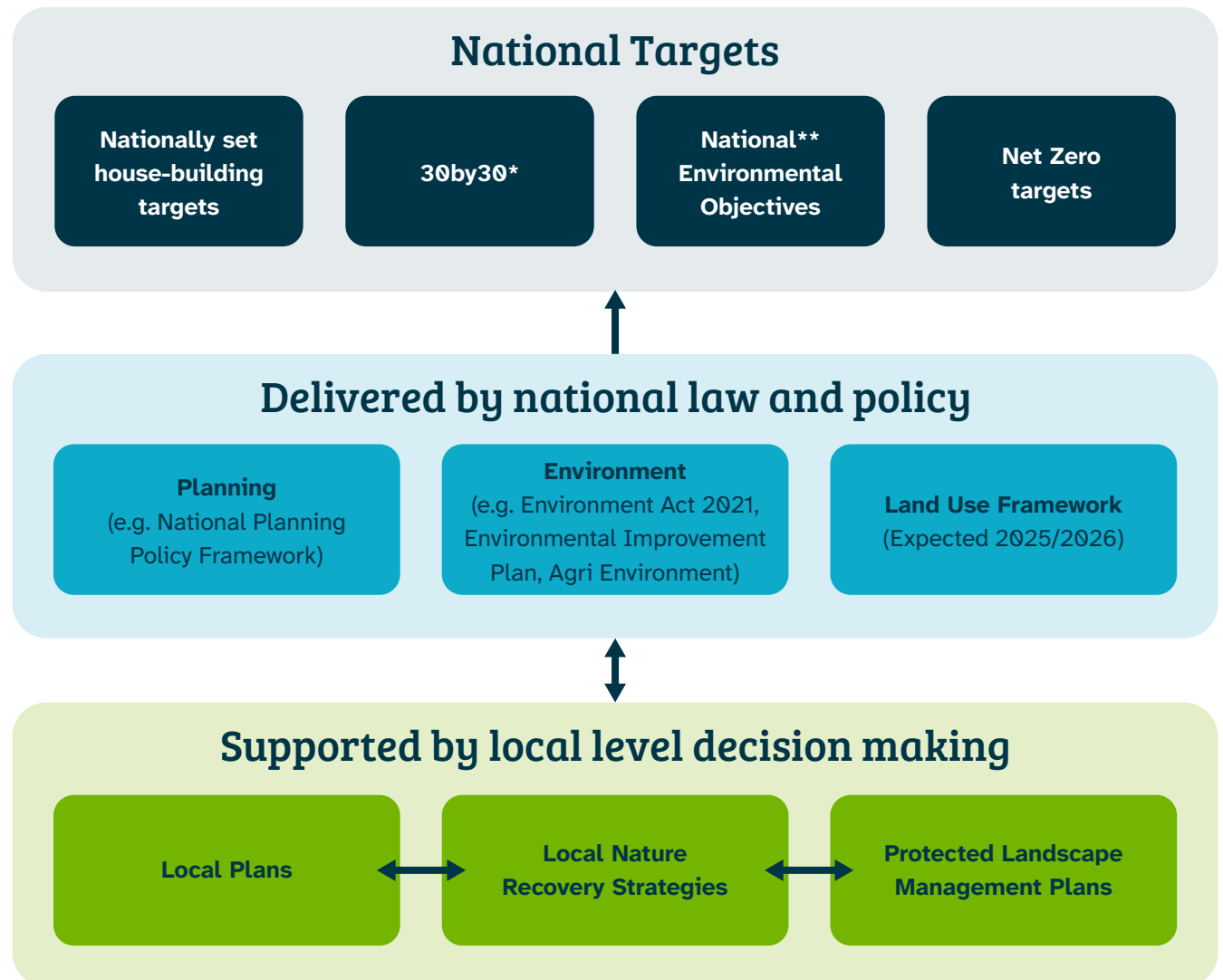
This strategy sits alongside a wider set of policies and strategies that cover the environment, but doesn't override them or any other existing plans, policies or best practice. Nor does it change any protections that are already in place for nature, nationally or locally.



*The UK has committed to protect 30% of land and sea for nature by 2030 (30by30), to support the [global 30by30 target](#) agreed at the UN Biodiversity Summit (COP15) in 2022 (source [gov.uk](#)).

** How this LNRS helps to deliver National Environmental objectives is set out in Part 4.

Figure 1. How LNRS fits within the existing policy framework



It is important to understand what an LNRS can and cannot do.

While every effort to recover nature is necessary to restore our environment, Local Nature Recovery Strategies seek to identify *which* efforts will have the greatest impact and *where* they are best concentrated.

They do not and cannot cover everything that is required to recover nature, so if areas, species and aspects are not included in this strategy, that does not mean that these things are not important or should not be undertaken. This LNRS does not prevent nature conservation work from taking place in areas that are not prioritised by it.

The seas of West Sussex are just as diverse and species-rich as habitats on land, but fall outside the scope of the LNRS. We recognise their vital importance and the urgent need to support their recovery. Our opportunities, priorities and measures⁹ have been developed recognising that activity on land can impact marine habitats. We are working closely with [Sussex Bay](#) who are developing a Seascape Restoration Strategy for our marine and coastal waters, which will complement this LNRS.



Some key aspects of Local Nature Recovery Strategies

- They *cannot* dictate how land will be used and place no obligations on landowners or any other organisation to carry out actions.
- Areas that are mapped in the LNRS for habitat creation or improvement do not prevent other legitimate land uses, do not place new restrictions on developing land, and do not identify areas to be given legal protection.
- While they highlight the pressures such as pollution and housing development are putting on our natural environment and wildlife, they cannot tackle the sources of these pressures if they are covered by other frameworks.

It is also important to note that the preparation of this Local Nature Recovery Strategy has been limited by the data, resources and capacity available to West Sussex County Council as the Responsible Authority.

📷 Sussex cattle (a British breed of red beef cattle from the Weald of Sussex, Kent and Surrey) mob-graze while wearing a NoFence collar at Knepp's regenerative farm.

© Penny Green

2.8 Their legal implications

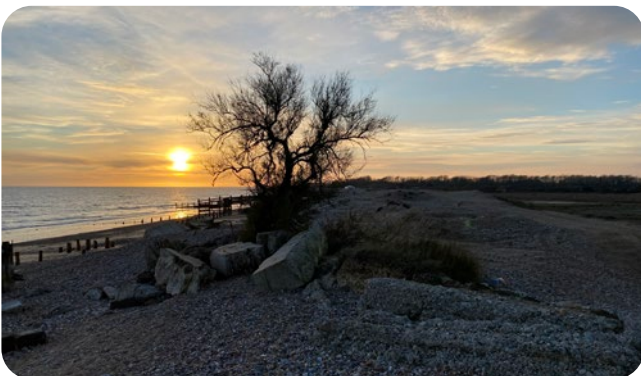
Local Nature Recovery Strategies *do* have legal implications within the planning system.

The Environment Act establishes the following key mechanisms to support their implementation:

Mandatory Biodiversity Net Gain (BNG) for developments

Since April 2024, all new developments must show a 10% uplift in nature. This aims to ensure biodiversity is in a measurably better state than before the development took place.

Developers must first assess if they can create biodiversity on-site, within the area of development itself, but if they cannot achieve all of their BNG there, they can deliver some or all of the BNG off-site. Local Nature Recovery Strategies play a key role in BNG by encouraging off-site BNG is delivered in areas most beneficial for nature recovery.



A Strengthened Biodiversity Duty^o on Public Authorities

The Environment Act strengthens a duty that local planning authorities already have to consider what they can do to conserve and enhance biodiversity in carrying out their functions.

“Local planning authorities should be aware of those areas mapped and identified in the relevant Local Nature Recovery Strategy and the measures proposed in them and consider how these should be reflected in their local plan. In doing so, they should consider what safeguarding would be appropriate to enable the proposed actions to be delivered, noting the potential to target stronger safeguarding in areas the local planning authority considers to be of greater importance. This will enable local planning authorities to support the best opportunities to create or improve habitat to conserve and enhance biodiversity, including where this may enable development in other location.”

For planning decisions

“The Local Nature Recovery Strategy is an evidence base which contains information that may be a ‘material consideration’ in the planning system, especially where development plan documents for an area pre-date Local Nature Recovery Strategy publication. It is for the decision-maker to determine what is a relevant material consideration based on the individual circumstances of the case.” (source: [gov.uk](https://www.gov.uk))

📷 Left: Stroodelande, Climping. A Sussex farm that meets the sea, integrating nature within the farmed landscape and offering BNG credits and other Natural Capital opportunities.

© Stroodelande

2.9 How this LNRS was developed

The following steps, outlined in the statutory guidance were followed to create this strategy.

Step 1



Baseline evidence was created

Data was compiled and analysed to inform a description of our key habitats and species, the pressures they face, and any ecological opportunities to improve or create them (see *Part 1 Section 4*). Data was also used to map where a prescribed list of our important areas for nature, such as designated sites, are found (*this map, formally called Areas of Particular Importance for Biodiversity (APIB)*^o can be found in *Part 2 Section 5*).

Step 2



Local priorities were gathered and shortlisted

Over 150 published plans and strategies for our area were reviewed and priorities for nature collated (*for a full list see Part 4*). Everyone living and working in West Sussex was invited to share their priorities for nature's recovery through surveys. These inputs informed a longlist of priorities which were then shortlisted using set criteria.

Step 3



Potential measures were identified

Key organisations involved in nature and land management in West Sussex helped us identify practical and achievable actions (called measures) that can be taken to deliver our shortlisted priorities. (*Read the habitat priorities and measures in Part 2 of our Statement of Biodiversity Priorities. Species priorities and measures are in Part 3*).

Step 4



Measures were mapped

Where possible, maps have been created to show where individual measures would be best targeted and can feasibly be delivered. Mapped areas that fall outside of the APIB create Areas that Could become of Importance for Biodiversity (ACIB)^o (see *Part 2 Section 5*). Mapped measures show the optimal, but not only, opportunities for nature recovery in our LNRS area. Combined, the APIB, ACIB and Measures maps are referred to as the *Local Habitat Map*^o.

Step 5



Public consultation and publication

Information gathered through steps 1 to 4 has been drawn together with supporting detail about our approach and methodologies, into the four documents that comprise this LNRS. These along with an interactive Local Habitat Map are reviewed by the public before publication.

What happens next?

The strategies will be reviewed every 3-10 years to assess what actions for nature have been taken since the strategy was last published. All 48 strategies across England will be reviewed simultaneously, at a time to be announced by the Secretary of State.



2.10 Who has been involved in this LNRS?

An LNRS must be evidence-based, locally led and collaborative.

In the production of this West Sussex strategy, farmers and land managers, local community groups, organisations, residents and businesses were consulted and invited to participate via surveys, meetings, workshops and interactive tools on our website (for full details, see Part 4).

In addition, West Sussex County Council has been supported by:

- **East Sussex County Council.** Our sister council was appointed as the Responsible Authority for the East Sussex and Brighton & Hove area. As many habitats, species and stakeholders are shared across the whole of Sussex, the two councils collaborated closely and developed aspects of their strategies together under the banner of '[Sussex Nature Recovery](#)'.
- The **Sussex Nature Partnership** (representing over 30 of the key enabling and delivery organisations for nature in Sussex).
- A **Supporting Authority Group** comprising all local planning authorities in our strategy area, including the [South Downs National Park Authority](#) and Natural England.
- A **Sussex LNRS Working Group** of key sectors including local and national nature, farming and land management organisations and bodies, such as [Sussex Wildlife Trust](#), the [National Farmers' Union](#) and Forestry Commission.

In addition, we have been supported by a Technical Review Panel, species experts and key delivery partners.

📷 Don Baker of West Sussex County Council talks members of the Arun to Adur Farmers Group about the Local Nature Recovery Strategy. © D Alcroft



2.11 Some of the ways local people were engaged

We are incredibly thankful to everyone who attended an event, completed a survey, visited the website, and shared their views, knowledge, creative expressions and pins – they have all helped to shape this LNRS!

Farmers and land managers

- 353 people attended or watched a recording of our webinar for the agricultural sector in November 2023.
- 63 people completed our dedicated survey.
- 200+ people attended our in-person presentations with farmer clusters, the Nature Friendly^o Farming Network and other farmer-led initiatives.
- We also presented online and in person to golf courses, large estates and regional representatives from the National Farmers' Union, the Country Land and Business Association and Savills, had a presence at ploughing matches and produced dedicated case studies and other materials.

Community groups, local experts and smaller environmental charities

- 307 people attended or watched the recording of our webinar for the sector in February 2024.
- We had 102 responses to our dedicated survey.
- 100s of people attended in-person presentations.
- c.100 pins plotting projects and ideas added to our interactive map.

Key delivery and enabling organisations for nature in Sussex

- 50+ representatives attended three all-day workshops to input into detailed aspects of the strategy as it developed.

📷 Right: Experts from the key nature and land management organisations in Sussex review existing priorities in an LNRS workshop in April 2024.

© Ruth Anslow

📷 Below right: An artwork by Otto, 6, Mid Sussex.

📷 Below: Julie Middleton from the Sussex Nature Partnership leads the priorities shortlisting workshop.

© D Alcroft



Residents

- 1,800 people completed our Sussex-wide public survey.
- 700+ people attended or watched recordings of our public webinars in June 2024 which shared updates on progress and interim survey results.
- 500 people signed up to receive our Sussex Nature Recovery newsletters.
- Over 12k views on our map plotting residents' 'favourite places to experience nature in Sussex' (see 3.1).

Children and young people

- 68 drawings, photos and poems were submitted to our nature prize draw.
- 9 ambassadors attended our workshop with the West Sussex Youth Cabinet.

Local councillors and delegated authorities

- 290 councillors and clerks attended or watched our webinars in February 2023 and December 2024.

Local species experts and biodiversity recorders

- 27 were convened and consulted to create longlists and shortlists of our important and rare species.

Developers and local authority planners

- 30+ developers and many planning officers were briefed at forums and via supporting authority teams.

Health & Wellbeing sector

- 20 sector groups and organisations including NHS and Public Health Sussex attended a workshop and completed a survey.



📷 Above: Sussex Nature Recovery stand at the West Grinstead Ploughing Match.



📷 Left: A drawing of a blue jay by Lucas, 6, from Adur & Worthing.

2.12 Who can use this LNRS?

Everyone in West Sussex can take part in helping to recover nature.

Different organisations and groups of people will be able to use this strategy in different ways:

- **Farmers and land managers** can use this strategy to help make decisions about habitat creation and improvement on their land and to access a range of measures, case studies and further guidance about habitat creation and improvement.
- **Environmental organisations** can use this strategy to drive more coordinated and collaborative action for nature and to benchmark future trends and the effectiveness of actions.
- **Residents and community groups** can use this strategy to understand what the priorities for nature are in their local area and to find actions they could take forward.
- **Local authorities** can use this strategy to understand how development can fit within the context of local nature recovery and to inform and evidence local policies and plans, including those related to planning, minerals and waste, national parks and national landscapes.
- **Protected landscapes** can use this strategy to support and inspire their efforts to drive the recovery of nature within their boundaries, sitting alongside and informing the Management Plans for these areas.
- **Businesses** can use this strategy to inform their own corporate plans for their contribution to nature recovery and to create or enhance green space on their premises.
- **Developers** can use this strategy to create and sustain biodiversity rich developments that deliver multiple benefits for nature and people, and to refer to when planning habitat creation as part of development through Biodiversity Net Gain.
- **Institutions such as the NHS and schools** can use this strategy to inform how they create or enhance green space or gardens on their premises, such as a therapeutic or sensory gardens and to build and inspire nature-based educational or health programmes, such as green social prescribing programmes.
- **Government agencies** can use this strategy to view their sites within the strategic environmental context and identify how they can achieve 'bigger, better, more and joined-up' habitats and sites.

📷 Riverfly sampling at Stonemanbury by the Adur River Recovery Project. The sampling helps to determine river health by surveying freshwater invertebrates like mayflies, stoneflies, and caddisflies.

© Adur River Recovery



Section 3.

What does nature recovery mean to people in West Sussex?

3.1 Where do local people go to enjoy nature in West Sussex?

To inform this strategy we canvassed the views of Sussex residents about nature, including their favourite places to experience it.

1,834 people responded

A [map](#) was created to plot the location of respondents' favourite places for nature. Each pin on the map represents a different place mentioned. Click on a pin to see the reasons given by respondents as to why their nominated place is special – the more comments, the more popular the place.

The South Downs National Park received the highest share of nominations (**12%**) by West Sussex residents who also love spending time at their favourite beach (collectively **11%** of nominations). RSPB Pagham Harbour Local Nature Reserve, Kingley Vale National Nature Reserve, Knepp Rewilding Project, Wakehurst and Chichester Harbour also got a high number of mentions. **5%** of nominations were for residents' own garden or allotment, demonstrating how local people have made space for nature at home.

What is it about these places that survey respondents enjoy?

- **12%** refer to “bird/s” (with many other comments listing specific species).
- **11%** mentioned “view/s”.
- **12%** use one of the following words to describe their favourite place: “stunning”, “fantastic”, “beautiful”, “amazing”, “special” or “unique”.

Respondents' comments also highlight the inextricable link between our enjoyment of nature and our health and wellbeing.

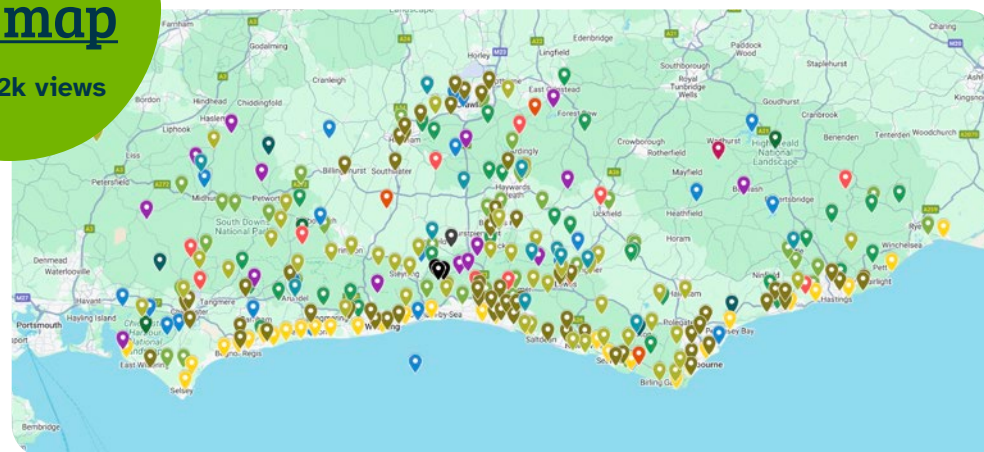
- **9%** of answers use words like “peace”, “tranquillity” or “quiet”, suggesting that spending time in natural places is restful and a necessary escape.
- **16%** include the word “walk”, a reminder that being in nature is often important time spent taking exercise outdoors.

Finally, proximity is a key factor. **14%** of free text answers included the word “near”, “close”, “local” or “access”, highlighting the importance of having nature nearby.

**Explore
the map**

Over 12k views

📍 Map of respondents' favourite places for nature
Map data © 2025 Google



3.2 The habitats West Sussex residents love

We asked people about the habitats they value locally and what they like about them. Below is a snapshot of their answers. Woodland was the most mentioned habitat by West Sussex residents.



Woodland

“Excellent for carbon capture, wildlife, shade”
 “Bluebells, primroses, wood anemones, violets – magic!”
 “Something humbling about being in the presence of old, giant forest spirits”



Coastal habitats

“Wild plants growing on the beach and wading birds”
 “Fossils, minerals, shells, creatures, shingle plants”
 “Clear views of skyline, big weather. Unusual birds”



River systems

“A vital pathway for nature to travel to other areas”
 “Provides a great place for aquatic life to thrive and it's very calming and beautiful”
 “Chance to see heron and kingfisher”



Fields and hedgerows

“The sound and sight of birds especially at dusk”
 “Locally farmed fields providing an outstanding mix of ecology”
 “Seasonal changes, winter thrushes, waders even a stork this spring”



Chalk habitats and grassland

“Butterflies, skylarks and orchids”
 “Blows the cobwebs away, awe inspiring views, nature”
 “A world in miniature full of essential little creatures”



Urban

“Haven of peace in a busy city”
 “Love seeing wildflowers on verges, etc in spring and summer”
 “I can view birds, butterflies and insect life plus the occasional fox from my small back garden which brings me joy”



Heathland

“Rare and important for wildlife”
 “Unique habitat with sandy soil and magical colours”
 “Biodiversity and micro habitats”



Wetlands

“Frogspawn, little egrets, herons”
 “These are the places we see how the land works and life is sustained”
 “Wetlands are full of wildlife all year round”

📷 **Top to bottom:** Woodland © D Acroft; Coastal habitat © Ben Rainbow;
 River systems © Ben Rainbow; Fields and hedgerows © Ben Rainbow

📷 **Top to bottom:** Chalk habitats and grassland © iStock.com/Chris Page; Preston Park, Brighton © iStock.com/TWPhotography; Heathland © iStock.com/HerbySussex; Urban park © Don Baker; Flock of geese © Ian Cumming/unsplash.com

3.3 The species West Sussex residents love

Survey respondents also shared their favourite species found locally and why. Birds were by far the most popular answer (whether mentioned as a specific species e.g. 'kites' or generally as 'birds'). The popularity of birds may be due to how visible they are, including as visitors to our own gardens.

Top 10 most mentioned bird species (Most popular one to ten)

1 Kites



"Love to see them soar"

"Wonderful to see such a huge bird"

2 Woodpeckers



"Lovely birds and sadly so rare"

"Love their drumming"

3 Kingfishers



"Always exciting to see them"

"I love that flash of blue!"

4 Owls



"Sign of a well working ecosystem"

"Great to hear them hooting"

5 Skylarks



"Exhilarating, sense of Sussex culture"

"The sound of summer"

6 Robins



"Cheeky and cheer me up"

"They are so friendly"

7 Buzzards



"Beautiful bird, silent hunter"

"Majestic soaring above me"

8 Swifts



"Just awesome birds in every way"

"Endangered, only here for 3 months"

9 Nightingales



"Song is incredibly uplifting"

"The sound of spring"

10 Storks



"Successful reintroduction program"

"Primeval"

📷 1: Red kite © iStock.com/Cathy Rose; 2: Lesser spotted woodpecker © iStock.com/tuomovaa; 3: © Hans Veth/unsplash.com; 4: Barn owl © iStock.com/M-Reinhardt; 5: © iStock.com/MikeLane45; 6: Kev Kindred/unsplash.com; 7: Common buzzard © iStock.com/Carl mckie; 8: © iStock.com/Yuriy Balagula; 9: © iStock.com/VictorTyakht; 10: iStock.com/Thorsten Spoerlein



Top 10 most mentioned species excluding birds (Most popular one to ten)

1 Butterflies



“Beautiful colour and patterns”

“A special Sussex thing”

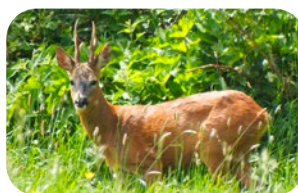
2 Hedgehogs



“So sad if they disappear”

“Privileged to see them”

3 Deer



“Sadly too often roadkill”

“Always a lovely sight”

4 Bees



“Help everything”

“Love to see them busy”

5 Foxes



“Resilient”

“Masters of urbanisation”

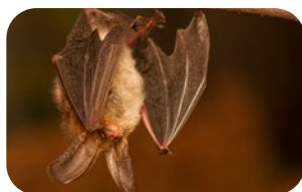
6 Bluebells



“Spectacular display”

“Sign of spring”

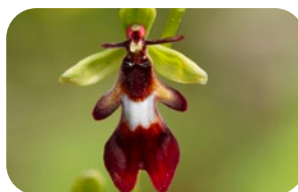
7 Bats



“Unique and rare”

“Need protection”

8 Orchids



“Provide a pop of colour”

“Intriguing flowers”

9 Badgers



“An honour to see them”

“Beautiful creatures”

10 Seals



“Fun and intriguing”

“Occasionally glimpsed”

📷 1: Adonis blue © Paul Marten/Sussex Wildlife Trust; 2: © Darin Smith/Sussex Wildlife Trust; 3: © Arthur, 12, Oldland Willmill, Hassocks; 4: Bumblebee © Anya Chernik/unsplash.com; 5: © iStock.com/Clark Warren; 6: © Jez Timms/unsplash.com; 7: Brown long-eared bat © iStock.com/Gucio_55; 8: Fly orchid © Ben Rainbow; 9: © iStock.com/Ondrej Prosicky; 10: Common seals © Hugh Clark FRPS/Sussex Wildlife Trust

3.4 What West Sussex residents have noticed

Noticed a decline in habitats (% of mentions)

40%	Loss and fragmentation of habitats due to development	"Shrinking habitat due to houses being built" "New housing for many years now have broken up green corridors" "Habitats like wild woods, mature trees & open fields have gone due to building houses"
15%	Pollution particularly sewage	"The sea is far more polluted" "Pollution of the River Lavant, an important chalk stream" "Noticeably more air pollution" "Pollution incidents from road and agricultural run off"
13%	Poor management especially of hedgerows and verges	"Woodland below ours over coppiced" "Hacking back of hedgerows using heavy plant/ equipment" "Poor management of road verges, hedgerows and woodland"
11%	Litter in habitats (esp verges)	"Litter especially dog mess bags dumped or hanging from hedges" "Fly tipping and litter along the roads" "I've seen a massive increase in litter with hedges and on roadsides"
10%	Loss of trees	"Trees being felled everywhere especially in and around towns" "Mourned loss of so many ash trees" "Apple orchards disappearing"

We asked West Sussex residents whether they had noticed any changes to habitats and species locally, whether positive or negative.

72% of respondents had noticed negative changes to habitats (e.g. damage, loss, poor management, pollution etc).

25% had noticed positive changes.

Noticed an improvement to habitats (% mentions)

8%	More Wildflowers	"Positive – more wildflower patches" "It's good to see more grass verges being left wild" "Increased long grass 'no mow may'"
4%	More places managed for nature	"Positive steps taken to maintain and improve local habitats for biodiversity" "Positive land use changes by some farmers & landowners to encourage wildlife diversity"
4%	Habitat creation initiatives	"Beneficial changes due to Medmerry managed realignment and new wildlife reserve" "Work at Buchan Country Park to manage and extend their lowland heathland habitat"
1%	Individual or community action	"More habitats formed by community action" "Voluntary work to restore hedges and ditches"



Noticed a decrease in species (% of mentions)

44%	Birds (esp. small/garden or farmland birds)	"We have lost greenfinches, bullfinches, green woodpeckers, jays, thrushes, to name a few" "Continual decline in variety of birds that visit our garden" "Haven't heard a nightingale for years"
36%	Insects (especially bees and butterflies)	"Significantly fewer pollinators" "Fewer leatherjackets, ladybirds in the garden. Far fewer insects on car windscreen" "Less butterflies & moths about" "Noticed declines in bees locally and insects on the wing"
19%	Hedgehogs	"There are not so many hedgehogs" "Only the occasional hedgehog now, despite leaving gaps and putting out food"
10%	Small mammals (e.g. hares, rodents, bats)	"Don't see weasels and stoats" "Rarely see hares, water voles" "Rabbit numbers have fallen dramatically" "No bats flying over my gardens" "I miss the rabbits"
5%	Amphibians and reptiles	"Adders becoming extinct locally" "Decrease in amphibians in urban areas" "Fewer slow worms"

68% of respondents had noticed a decrease in the amount or distribution of wildlife/species.

10% had noticed an increase.

We then asked residents to provide more detail about what they have noticed. This is a snapshot of what they told us. [Read the full reports.](#)

Noticed an increase in species (% mentions)

4%	Species adapted to urban environments	"More foxes locally" "The garden [is] overcrowded with Pigeons, Corvids and Gulls now" "Too many grey squirrels and corvids" "A lot more seagulls than ever before"
5%	Birds of prey	"Many more larger raptors – kites and buzzards" "buzzards are much more common now – and red kites" "We now see buzzards, kestrels, sparrow hawks"
3%	Deer	"Increase of wild deer" "Now seeing deer everywhere – perhaps too many!" "I have seen deer on busy roads during the day, when they should never be in that environment"
3%	Insects	"I've seen more bumblebees and solitary bees" "Verges cut less often so more wildflowers and bugs"

3.5 What do residents want to see happen?

- West Sussex survey respondents are worried by the loss of all types of habitats and/or their declining condition and the impact this has on species abundance and diversity^o, as well as to human health and wellbeing.
- Development pressure was cited most frequently as a reason for the above. Climate change, pollution, disturbance, predation (by pets), poor management practices, diseases and non-native species were also mentioned.
- They want to see **more of all types of habitats** and **better care of those we have now**. Many respondents also cited the **need for more wildlife corridors such as hedgerows** that connect habitats and allow species to move safely across the landscape.
- Other actions respondents mentioned include the implementation of additional protections, reduced pesticide use, hedgerows and verges left to grow, the installation of nesting boxes and hedgehog highways, and more educational and awareness campaigns for the public.



📷 Hedgehog © Andy Willis / unsplash.com



Key findings from the survey include

- **97% of respondents are concerned or very concerned about the state of nature in Sussex**
- **Species: respondents are most concerned about birds, insects and hedgehogs**
- **85% of respondents want to know that positive action for nature is taking place**
- **Habitats: respondents are most concerned about woodland, coastal, riverine and hedgerows**
- **82% of respondents want cleaner air or water as a result of functioning ecosystems**

For habitats (sample of comments)

"Need to invest in future ancient woodland"

"Mixed age woodland with healthy understory"

"Rivers – Less water abstraction from rivers, protect use of water"

"River meanders reinstated"

"More wetlands to attract migratory birds"

"I'd like to see wetlands restored and better water management using permaculture principles"

"Hedgerows must be reinstated"

"Hedgerows allowed to grow and provide over winter protection/ nesting sites"

"More meadows and rewilded grasslands"

"Grass verges should be being allowed to grow for wild flowers"

"I wish we could only cut the verges once a year"

"Chalk streams kept clear of run off silt and harmful chemicals"

"Desperate need for more wildlife corridors throughout the county"

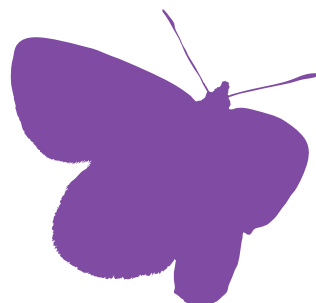
"Linking species rich grassland along the downs"

"More native trees on roadsides for wildlife and to help with air pollution"

"More green spaces interspersed throughout towns and villages"

"More connected wildlife corridors are needed"

"Wildlife corridors need enhancing and enlarging"



For species (sample of comments)

"Insects are facing a mass extinction ...The first and easiest step is more un-mowed / meadow areas"

"More log piles for insects & invertebrates"

"All newbuild houses should have a swift brick or two. All garden fences should have gaps for hedgehog highways"

"Need more wildlife areas in parks – more bug homes – bird feeders, bat boxes"

"Badgers & foxes: Protect them from hunting and culling"

"Bats: protecting their habitat is essential"

"Would love to see the re-introduction of beavers – with special benefits to flood damage reduction"

"Much as I like the deer on the brooks their number needs management"

"Insects – STOP using weed killer and pesticides"

"We need to see greater support for and evidence of connected networks of habitat within the county, to prevent existing species becoming isolated in shrinking "islands" of suitable habitat"

"Incorporating bee bricks into new housing"

"It would be nice if patches of nature could be better, to provide insects and small species with patches of nature to move across and rest in"

"Birds – Dogs should be kept on leads at all times at reserves like Medmerry and Pagham, and on the downs"

The high number of responses received, and the level of feeling and concern expressed in the survey demonstrate how important nature is to the local community as well as to our tourist and visitor economy.

Section 4.

Nature in West Sussex – description

In this section of our strategy, we take a more detailed look at the environmental and ecological features of our LNRS area and describe our geology, [National Character Areas](#)^o and the extent and condition of our diverse habitats. We also look at the wider benefits that functioning ecosystems provide us with (our [natural capital](#)^o) and the pressures facing nature in West Sussex.

📍 Wet Ancient Woodland & Wild Garlic,
Billingshurst. © Ben Rainbow

4.1 Underlying geology and soils

The distribution of habitats in West Sussex depends largely on the underlying rocks and soils, as these provide the conditions for different types of vegetation to grow, and so ultimately provide the foundations for our natural environment.

The chalk of the South Downs is a soft sedimentary rock laid down in a warm shallow sea, between 100-70 million years ago. This chalk layer covered the older rocks that now outcrop in the High and Low Weald, so that what we see today are the remnants of a once continuous sheet. Plate movements in southern Europe folded the chalk and older rocks into a dome. Over time, the chalk forming the central and highest parts of the dome was eroded to expose the older rocks beneath; the sandstones and siltstones of the High Weald, the clays of the Low Weald and the Wealden greensands. The North Downs form an arc from Dover in Kent, northwest via Maidstone, then southwest via the narrow Hog's Back near Guildford in Surrey, just about reaching into the far northwest of West Sussex. Here the chalk broadens out into the Wiltshire and Hampshire Downs.

Further uplifting and folding along with rising and falling sea levels resulted in a variety of sands and clays being deposited on top of the chalk. There is a layer of clay-with-flints along the ridge of the South Downs, with relatively recent clays, sands and gravels to the south within the south coast plain.

The relationship between the geology, topography and soil type determines the dominant natural or semi-natural habitats found across West Sussex, and therefore the natural character of the landscape.



📷 Iping Common © Sussex Wildlife Trust

4.2 National Character Areas

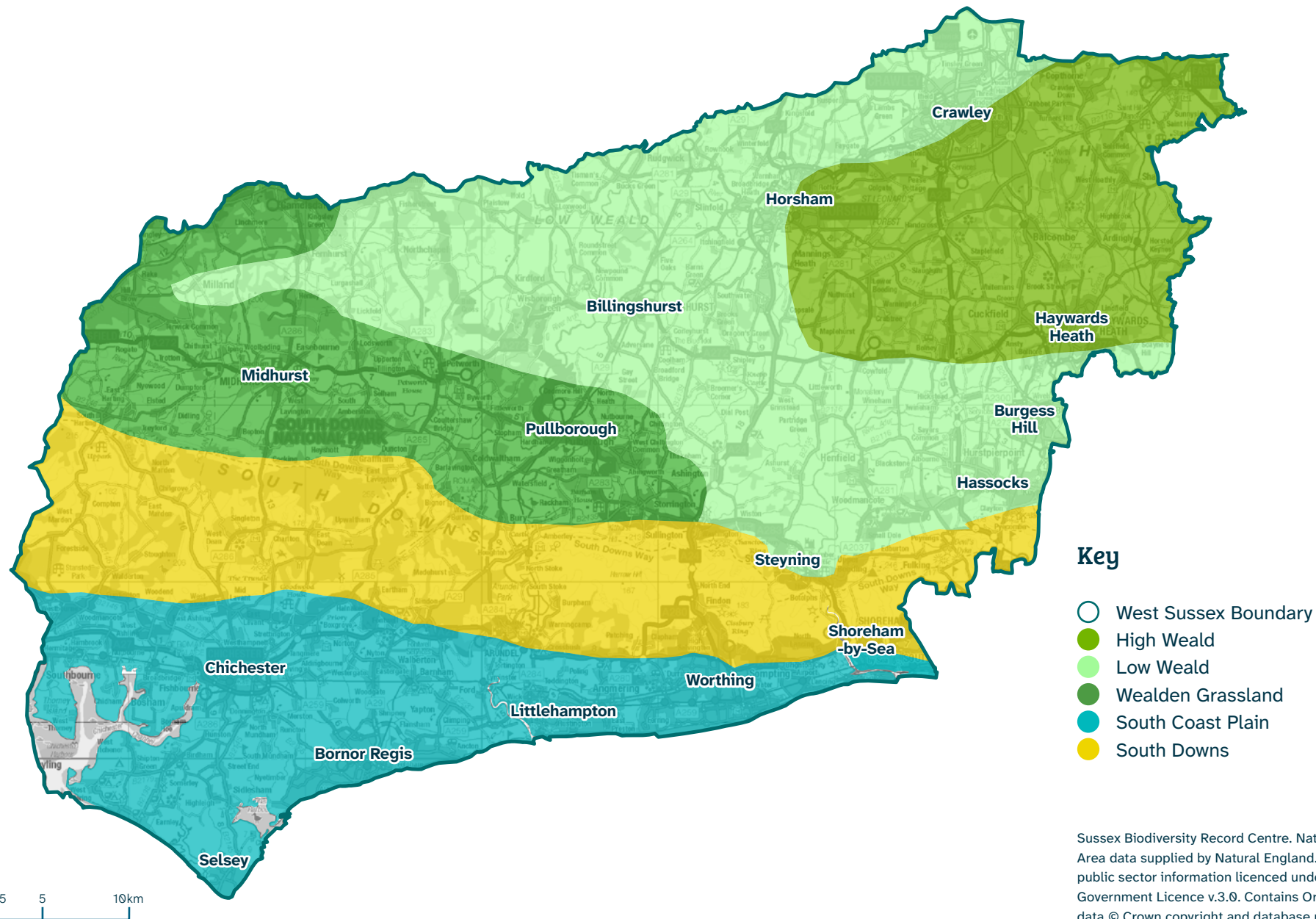
National Character Areas (NCAs) share similar landscape characteristics^o and follow natural lines in the landscape rather than administrative boundaries. Identified and described by Natural England, they provide a framework for decision making around land management and other activities to help strengthen landscape character and resilience^o to pressures such as climate change. Five NCAs lie within the West Sussex LNRS area: Wealden Greensand (no. 120); Low Weald (no. 121); High Weald (no. 122); South Downs (no. 125); and South Coast Plain (no. 126).



📷 Little owls © iStock.com/suerob



Map 2. Map of National Character Areas in the West Sussex LNRS area



● Wealden Greensand NCA

The long, curved belt of the Wealden Greensand runs across Kent and Surrey, south alongside the Hampshire Downs, and curves back eastwards to run parallel with the South Downs in West Sussex, shaping the scarp-and-dip slope topography. The geology is complex with a mix of clays and sandstones and fertile river flood plains. The soils range from slightly acid loams and freely draining sands to clayey soils with impeded drainage.

The landscape includes high open ground with a mix of lowland heath, conifer plantations, ancient oak/hazel woodland and rough grazing. The broad river valley of the Arun is noted for its wetland habitat, particularly Amberley Wild Brooks and Pulborough Brooks. Large deer parks such as Cowdray Park, Petworth Park and Parham Park retain veteran trees, important for a number of bird species. Farming includes livestock, arable and horticulture. Large arable fields are found in the river valleys where the soils are light and fertile. Here there are many broad hedgerows with occasional, large hedgerow trees¹.



● Low Weald NCA

The Low Weald is a low-lying clay vale with localised outcrops of limestone and sandstone. The soil is mainly slowly permeable heavy clay which is seasonally wet and slightly acid. Dominant habitats are slightly acid but there is a base rich pasture and deciduous woodland with some scrubby commons. The landscape is a gently undulating vale containing a patchwork of fields, tall hedgerows and woodland. There are many small streams and ponds, often surrounded by wet woodlands of willows and alder, with the valuable gill woodland being a particular feature. Grass grows well on clay soils, so livestock farming is common, with arable cropping on the higher, lighter soils².

The Low Weald NCA is important for biodiversity, and is one of the most important NCAs in the country because of the number of bat species it supports, as well as for bullfinch and lesser-spotted woodpecker, a variety of rare lichens and woodland butterflies. It remains largely rural with small villages amongst woodland and many traditional farm buildings.

📷 Above: Low Weald

© iStock.com/Matthew J Thomas

📷 Left: Arun Valley grassland

© Ben Rainbow

¹ Sussex Ornithological Society, 2014. *The Birds of Sussex*.

² Sussex Ornithological Society, 2014. *The Birds of Sussex*.



● High Weald NCA

The High Weald is a densely wooded area, with a high proportion of ancient woodland. The many small fields are surrounded by thick hedgerows, copses and woodland shaws. Wildflower meadows are now rare here, but the medieval patterns of small pastures are fundamental to the landscape character. The underlying geology is a mix of sands, sandstones and clays. As a result, the soil is poor in agricultural terms, so farming is predominantly livestock with some limited arable crops. A series of sandstone ridges run east to west and are deeply incised by streams running north to south, feeding the Adur and Ouse rivers. These steep-sided valleys or gills are often well wooded with a very sheltered microclimate and rare species of lower plants. Similarly, sandstone outcrops support an array of *bryophytes*^o, ferns and lichens.



● South Downs NCA

The South Downs is a 'whale-backed' spine of chalk stretching from the Hampshire Downs in the west to the Beachy Head in the east. Within West Sussex, the western most extent is West Harting Down. The complex landscape arises from local physical, historical and economic influences, with much formed and maintained by human activity, especially agriculture and forestry.

Within the LNRS area, two main rivers – the Arun and Adur – cut through the chalk ridge, separating it into blocks. The broad valley floors and low-lying floodplains comprise wet grazing marsh that support a variety of wildlife. The soils on the Downs are thin and alkaline. Where there are areas of clay-with-flints, the soil is more acidic and can support areas of gorse. Much of the remaining species-rich chalk grassland lie on the steep north-facing scarp, with these slopes also supporting scrub providing an important habitat for breeding birds. The gentler dip slopes are predominantly arable farmland with very few hedges and little woodland. West of the Adur, the Downs become more wooded and the formal parklands of large estates contrast with the mix of pasture and arable farmland.



📷 Above: Clayton Hill
© D Alcroft

📷 Left: Ancient Woodland, Ghyll & Bluebells.
© Ben Rainbow



📷 Pagham Harbour © iStock.com/Andre Schmitt

● The South Coast Plain NCA

The South Coast Plain lies between the southern edge of the South Downs and the English Channel. A predominantly flat, low lying area which includes large urban developments (parts of Chichester, Littlehampton, Worthing) with intensive agricultural land towards the west. The soils include brickearth, which is very fertile. This has encouraged the development of large arable fields where there are low hedgerows with few trees and extensive areas of glasshouses. The harbours of Chichester and Pagham are of international importance for their populations of breeding and wintering waders and wildfowl³.

³ Sussex Ornithological Society, 2014. *The Birds of Sussex*.



4.3 Habitats

This West Sussex LNRS has identified eight broad categories as priorities for nature recovery:

- coastal habitats;
- farmed landscape and soils;
- species-rich grasslands;
- woodland, hedgerow and scrub;
- lowland heathland and sandstone outcrops;
- rivers, streams and aquifers;
- wetlands and standing water bodies;
- urban nature.

Each of these categories often include a variety of habitat types, many of which are among the country's most important and threatened. Just as important as these broad habitat types are the mosaics^o they create together and the graduated boundaries or ecotones^o that link one to another. To recognise these wildlife-rich areas, which often play a vital role in providing corridors and stepping stones for wildlife, we have also identified Nature Networks as a priority for our LNRS. A broad description of these habitats in West Sussex is provided below.



Coastal Habitats

We have a predominantly south-facing coastline (although from Beachy Head the coast is southwest to northeast) with a variety of habitats including intertidal mudflats and saltmarsh, shingle, coastal lagoons and sand dunes. Map 1 ([Appendix 1A](#)) shows the distribution of coastal habitats in West Sussex. The general form of the coastline throughout West Sussex is low-lying formed of easily eroded material. Much of the coastline is developed and constrained by sea defences.



 **Yellow horned poppy**

© Hugh Clark FRPS/Sussex Wildlife Trust



Intertidal Mudflats and Saltmarsh

As rivers reach the sea and flow out over coastal plains, their flow decreases and the muddy sediment they transport is deposited. This sediment has a high organic content and is exposed and covered with each tidal cycle, making it nutrient-rich. Saltmarshes are the upper, vegetated portions of intertidal mudflats, lying between mean high water neap and mean high water spring tides.

These habitats are exceptionally rich in biodiversity, supporting large numbers of invertebrates, and providing feeding, roosting and breeding areas for birds throughout the year. They also provide sheltered nursery sites for several species of flatfish. Vegetation is limited to salt-tolerant species that can cope with regular immersion by the sea, and natural systems show clear zonation depending on how frequently they are inundated by the tide. A high proportion of our saltmarsh comprises *Spartina* or other pioneer plants, more so than in the rest of the country. It plays a significant role in coastal flood defences, acting as a natural wave break, reducing the risks of overtopping and protecting defence structures. Priority species supported by these habitats include slender hare's-ear, saltmarsh goosefoot and sea aster bee.

We have 2168ha (hectares⁹) of **intertidal mudflat**, the majority of which (87%) is designated for its nature conservation interest. Key sites are Pagham and Chichester Harbours, with the habitat extending along parts of the Arun and Adur. Chichester Harbour, in conjunction with Langstone Harbour in Hampshire, forms the largest area of intertidal mudflat on the south coast. The rich feeding grounds support an average of 47,000 wildfowl, waders and other birds, including 5% of the world population of black-bellied brent goose. Similarly, the ringed plover population using mudflats within the Adur Estuary regularly exceeds 1% of the total British population.



Saltmarsh extends to 411ha but is only found in a few places, with the majority in Chichester and Pagham Harbours and along the tidal reaches of the rivers Rother and Adur. Chichester Harbour is the largest saltmarsh site in the south-east and the 7th largest in the UK⁴. In general, our intertidal mudflats and saltmarshes are small and isolated, making them vulnerable to change. Coastal realignment offers opportunities for the restoration of intertidal mudflats, as does the reconnection of rivers with their floodplains within estuaries.

Coastal Vegetated Shingle

Shingle closest to the sea is often mobile due to wave action, but as conditions stabilise further from the shore, mixed communities of flowering plants, grasses, mosses and lichens develop, some being specific to shingle. This **coastal vegetated shingle** is an internationally rare habitat occurring mainly in northern Europe,

📍 Vegetated Shingle,
Shoreham Beach.
© Ben Rainbow

⁴ [Saltmarsh – Chichester Harbour Conservancy](#)



Japan and New Zealand. Whilst shingle beaches are widely distributed around the UK coast, structures sufficiently stable to support vegetation are rare, with around 5800ha of vegetated shingle nationally. Our vegetated shingle is therefore of very high significance and supports highly specialised plants that are very restricted in their distribution. In West Sussex, most of our shingle beaches are formed from Ice Age shingle deposits on the sea bed being reworked by wave action and re-deposited or moved along the coast by longshore drift.

Classic pioneer species on the seaward edge include sea kale, sea pea, Babington's orache and sea campion, all of which can withstand salt spray and some degree of burial or erosion. Further from the shore, vegetation can develop into mature grassland, lowland heath, moss and lichen communities, or even scrub. Shingle structures

can support breeding birds including little tern and ringed plover, and diverse invertebrate communities, with species with species including the true bug *Chlamydatus (Eurymerochoris) evanescens* which is restricted to Shoreham in West Sussex.

We have 41ha of coastal vegetated shingle, according to best available data, found in small pockets at Pagham and Shoreham. About 80% of this is within designated sites, but of that, some 14ha (34%) is assessed as being in unfavourable condition due to scrub encroachment, non-native plant species out-competing the shingle specialists, and disturbance. Conservation work within these areas includes removal of garden escape plants at Shoreham, restoration of the tern island at Pagham Harbour, and recharging tonnes of shingle at Longbrook Park in Felpham and replanting with native species to expand existing areas. Shoreham Beach is important as a high tide roosting area for wading birds that have fed on the mudflats within the Adur Estuary⁵. Fringing shingle beaches are quite frequent around Chichester Harbour, where distinctive species such as sea beet, sea kale and yellow horned poppy occur⁶.

Saline Lagoons

Saline lagoons are natural or artificial bodies of water that are partially separated from the sea by some sort of barrier. They can be brackish^o (partially saline), fully saline or hyper-saline. They are rare and highly transient habitats, that in West Sussex are subject to pressures from changes in water supply, surrounding land use and infrastructure maintenance. Many are shallow and will naturally succeed to fen, carr or reed swamp. Under natural conditions, losses would be compensated for by lagoon formation in other areas. They often support filamentous green and brown algae, charophytes and tasselweeds, as well as invertebrates rarely found elsewhere, and



📷 Saltmarsh, Adur River. © D Alcroft

⁵ Shoreham Harbour Joint Area Action Plan.

⁶ [Chichester Harbour AONB Landscape Character Assessment, 2019.](#)

provide important feeding and roosting habitat for many birds. They cover just 5% of Europe’s coastline and 13% of coastlines globally.

We have 44ha of saline lagoons in West Sussex, 91% of which are within designated sites. Ivell’s sea anemone *Edwardsia ivelli* is endemic to a single location, Widewater Lagoon in Lancing. It has been listed as “data deficient” by the International Union for Conservation of Nature (IUCN) since 1996⁷ and as such, is effectively extinct. Other important lagoon species in West Sussex include Defolin’s lagoon snail, the lagoon spire snail, the tentacled lagoon-worm, spiral and beaked tasselweeds and foxtail stonewort.

Intertidal Seagrass

Seagrass is a flowering plant that forms underwater meadows or beds in shallow coastal waters. They were once found across much of Europe but have declined significantly due to development, pollution and damage from fishing gear and recreation. They capture and store significant quantities of carbon, improve water quality and stabilise the seabed. They also support a diverse ecosystem, providing food and shelter for fish, invertebrates and waterfowl and spawning, nursery and refuge areas for fish. There are two species in the UK: common eelgrass and dwarf eelgrass, both of which are found in West Sussex within Chichester and Pagham Harbours, where the seasonally variable plant cover on the mudflats includes eelgrass stands and green and brown algal beds⁸. Common eelgrass is intertidal to sublittoral, whereas dwarf eelgrass occurs higher on the shore, up to high water mark. Our best available data is that we have 9ha of this habitat, but this is likely an under-estimate as it only includes data from Pagham. Within the UK, it is estimated that we have lost 92% of our seagrass beds in the last century.

⁷ [Ivell’s Sea Anemone \(*Edwardsia ivelli*\)](#) · iNaturalist accessed 15/08/24.

⁸ Chichester Harbour AONB Landscape Character Assessment, 2019.

⁹ [Understanding sand dunes](#) | UK Centre for Ecology & Hydrology (ceh.ac.uk)



Sand Dune

Coastal sand dunes develop where sand is blown landward and trapped by specialised dune-building grasses, the key species in West Sussex being marram grass and lyme grass. Vegetation forms zones relating to the time over which sand has been deposited, how stable it is and local hydrology. Mobile dunes occur on the seaward side and support few plants other than marram. Semi-fixed dunes occur inland and additional plants such as sand sedge and dune fescue are found.

Fixed dune grasslands occur on the landward side where the surface is stabilised with some soil formation occurring. They provide an important flood defence and are a refuge for many lowland species lost due to agricultural improvement⁹. They support locally

📷 Seagrass,
Chichester Harbour.
© iStock.com/stevegeer



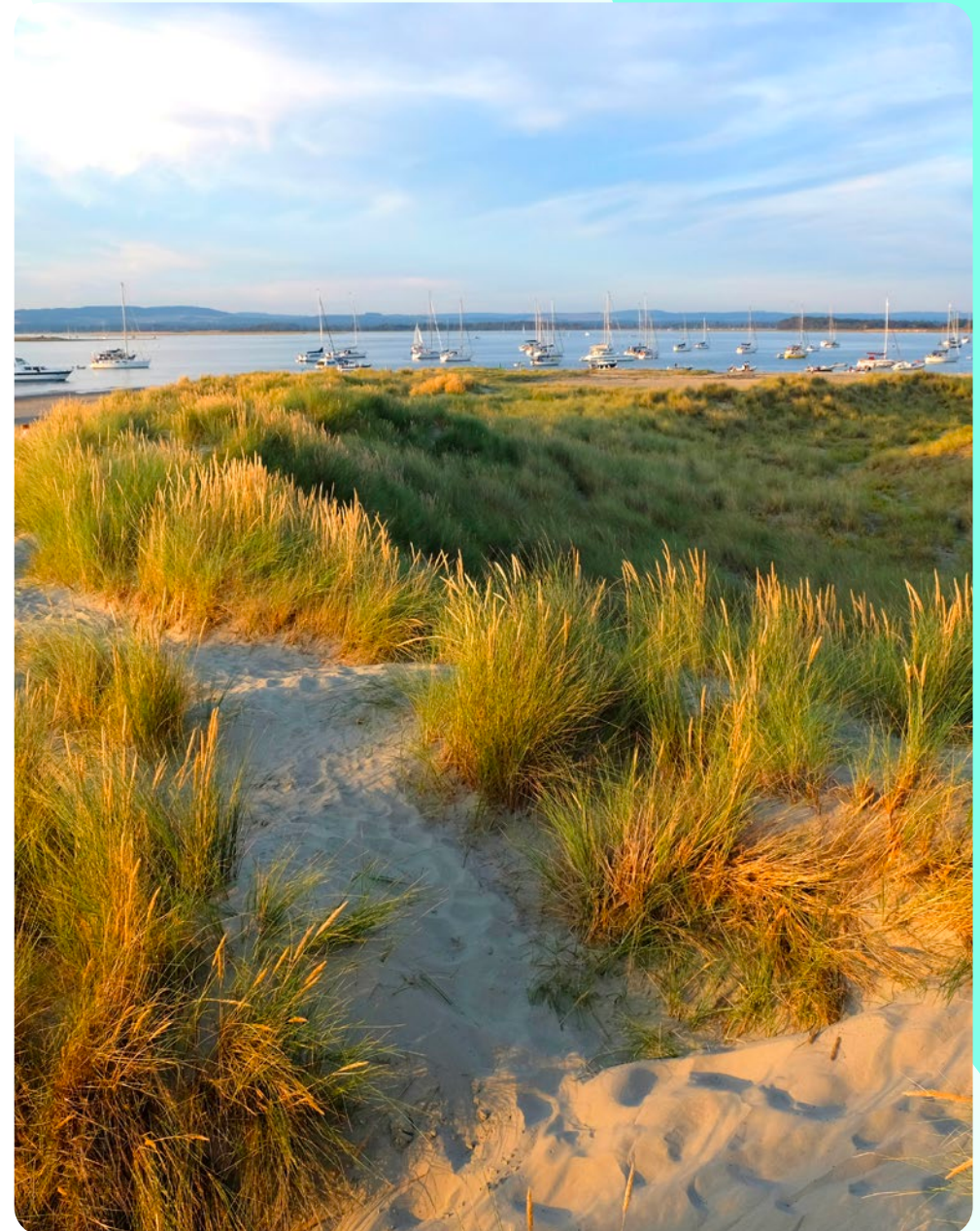
and nationally important plant and animal communities, and are particularly notable for moths, wintering birds including short-eared owl and beetles. Some of our important species found on dunes include hairy-saddled colletes, the mud wasp and chiding pink.

Our dunes are found at Chichester Harbour (East Head and Pilsey Island) and the mouth of the River Arun (near Littlehampton), with a relict dune system at Bognor Reef and a small area at Shoreham Harbour. In total we have 36ha of dune habitat, 87% of which is within designated sites. The dunes at Chichester Harbour are in unfavourable condition but recovering, with continued development of dune slacks (low-lying, seasonally-flooded areas) and fixed dune communities. However, coastal defence works may be reducing the availability of natural material for their continued development. At Bognor Reef, the dune is being invaded by gorse and tree lupin, and the habitat here is declining.

Sand dunes are listed as the habitat most at risk in Europe and since 1900 the UK's sand dunes have declined by a third¹⁰. Major dune systems are widely distributed within the UK, but scarce on the English Channel Coast. The limited extent of this habitat type in West Sussex makes it of high conservation significance¹¹. Scrub invasion and invasive species can be an issue in our dunes.

¹⁰ Stats and facts – Dynamic Dunescapes

¹¹ Gillespie, F.M. undated (c. 2008). *Sand dune sites in the Beaches At Risk Area and their major management issues*. University of Sussex. [BAR Report 1 \(sussex.ac.uk\)](https://www.sussex.ac.uk/bar-report-1)



📷 sand dunes at East Head, West Wittering Beach. © iStock.com/Alex Manders



Farmed Landscape & Soils

A combination of soil type and topography strongly influences farming practices, and in turn the wildlife that is found there. Our varied geology is reflected in our soils, which can be free-draining or waterlogged, acid or alkaline, rich loams, or thin, sandy and nutrient poor.

West Sussex is not generally an agriculturally intensive landscape, especially by the standards of the South East, but rather a farmed landscape with rich pockets of wildlife. The majority of our highest grade agricultural land is within the fertile South Coast Plains. Much of the farming here is horticulture, followed by cereals then livestock grazing. The fields are large in the southern part of the Plains and field boundaries are mainly drainage ditches with few trees and hedges. Smaller fields are found to the north where there is a network of broadleaved woodland and hedgerows. Of the 164,400ha of agricultural land (Grades 1-5) in the LNRS area¹², 107,547ha (65%) is farmed with 1,343 land holdings. The average farm size is 80ha, lower than the South East (87ha) and England (85ha) averages. The distribution of farms by size is fairly even, with 11% smaller than 5ha and 23% larger than 100ha. Map 2 (Appendix 1A) shows the distribution of agricultural land (Grades 1-3) and arable land cover in West Sussex.

Our farmed landscape is essentially a mosaic of a range of different habitat types including grassland, woodland, hedges, heathland and freshwater. Grasslands vary, depending on the soil with marshy grasslands also occurring on damper soils. Improved grasslands are areas that have been ploughed, reseeded or heavily fertilised.

Arable field margins are strips or blocks around arable fields that are managed specifically to provide benefits for wildlife. They are usually on the outer 2-12m margin of the arable field, although blocks occasionally extend further into the field centre¹³. They include cultivated, low-input margins which may be sown to provide seed for wild birds, with wildflowers or agricultural legumes (peas or beans that fix nitrogen in the soil) and managed to provide pollen and nectar resources for invertebrates, or managed as grass strips with mixtures of tussocky and fine-leaved grasses¹⁴.



📷 Mob grazing © High Weald National Landscape Partnership

¹² Defra, 2024. [Structure of the agricultural industry in England and the UK at June](#).

¹³ JNCC, 2016. [UK Biodiversity Action Plan Priority Habitat Descriptions. Arable Field Margins](#).

¹⁴ Natural England, 2020. Climate Change Adaptation Manual. Arable Field Margins.



Nationally, more than 120 species of threatened, rare and scarce wildflowers grow in arable habitats and together they are the fastest declining suite of plants in the UK¹⁵. Annual knawel and shepherd's needle are closely associated with farming but have become scarce. Similarly, populations of some farmland birds such as grey partridge and corn bunting have declined significantly¹⁶. Targeted habitat support for farmland birds, arable plants and other farmland biodiversity through initiatives such as Environmental Stewardship has encouraged farmers and landowners to create arable field margins on their land. 14,591ha of farmland in West Sussex is currently under Environmental Stewardship (c. 14% of farmed land)¹⁷.

¹⁵ Managing Arable Farm Land – Plantlife

¹⁶ Sussex Wildlife Trust, 1995. *Vision for the Wildlife of Sussex*.

¹⁷ Defra, 2024. [Structure of the agricultural industry in England and the UK at June](#).

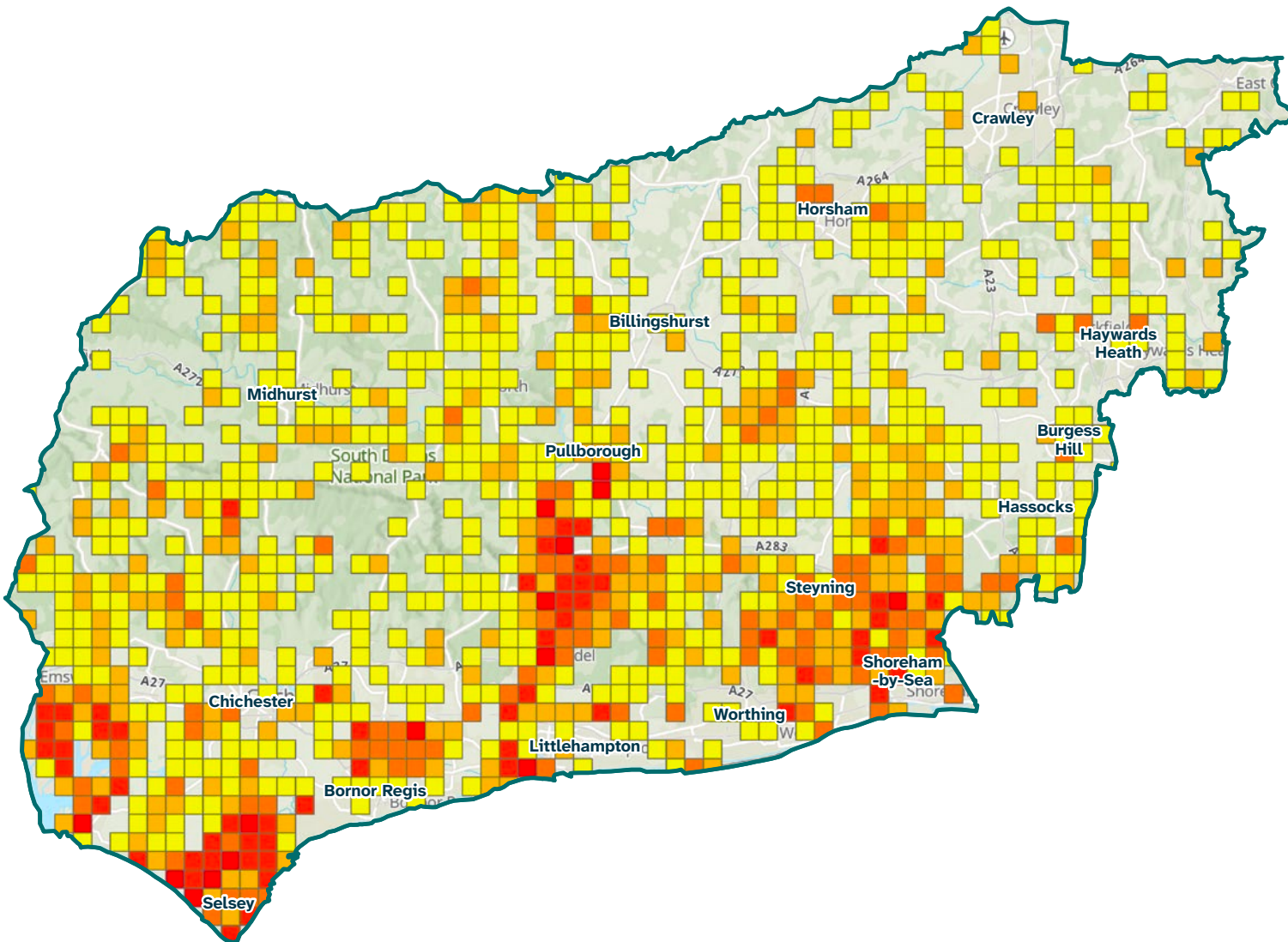


Farmland © Don Baker

Map 3: Heat map showing the number of farmland bird assemblage species

(for more detail, see Part 3: Species Priorities and Measures) per 1km square across West Sussex.

The darker the colour, the greater number of species present.



Key



5 Species

Number of species per 1km square
(Stone-curlew, Cuckoo, Corn bunting,
Grey partridge, Turtle dove).

Species data is provided to SxBRC by a range of individual recorders, recording groups, private, public and charitable sector organisations. Data remains the property of the original recorder and is reproduced with thanks.

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Species-rich Grassland

Our species-rich grasslands include **lowland calcareous grassland** (chalk grassland), **species-rich meadows** (including lowland meadows) and pastures, **waxcap grasslands**, and **neutral grasslands**. We also have acid grassland but as that is most commonly found in association with heathland habitats, it is covered in that section of the description. Similarly, wet grassland and grazing marsh are covered in the wetland section. Map 3 (Appendix 1A) shows the distribution of chalk grassland and lowland meadows in West Sussex.

These grasslands are rich in wildlife and provide important ecosystem services but they depend on continuity of appropriate and sympathetic management to maintain their ecological value. Ongoing agricultural “improvement” of semi-natural grassland (through re-seeding, use of fertiliser and herbicides to increase productivity), neglect, land use change and urban development are key threats that continue to reduce and fragment the remaining areas of ecologically important grassland both across the UK and in West Sussex.

Unimproved chalk grassland occurs along the length of the South Downs, and unimproved hay meadows and pastures are concentrated on more traditionally managed farms in the High and Low Weald. Waxcap grasslands can be found in cemeteries and churchyards in towns and villages across the county as well as within unimproved grassland on undisturbed soils with a range of pH values. Diverse, semi-natural grassland is usually associated with the farmed landscapes and nature reserves but also occurs in mosaics with other habitats, such as scrub (in transitional⁹ vegetation), on woodland rides, in wetlands, on road verges and sometimes in urban greenspaces. The extent of the different species-rich grasslands found in our LNRS area is shown below.



Grassland Type	Extent (ha)	% LNRS area
Lowland calcareous grassland	2736	1.4
Lowland meadows	226	0.1
Waxcap grasslands	1451	0.7
Unimproved neutral grassland	380	0.2
TOTAL	4793	2.4

 Grassland meadow
 © iStock.com/Chris Page

The priority habitat categories encompasses the best of the wildlife-rich grassland in Sussex, but the line between ‘priority’ and ‘non-priority’ but species-rich grassland is sometimes indistinct. Grassland of all types lies on a continuum that is influenced by different factors such as the underlying geology and soils, drainage, degree of waterlogging and management history. Some species-rich grassland does not meet the quite rigid botanical threshold to qualify as priority habitat but can nevertheless be very important for other species groups and function as vital connective tissue for landscape scale ecological function. Grassland that supports an abundance of flowering plants can buffer the most important species-rich grassland sites and link other priority habitats¹⁸. The mapping of non-priority habitat species-rich grassland on [MAGIC](#)¹⁹ underlines its importance for biodiversity.

Lowland Calcareous Grassland

Nationally, this grassland type has declined sharply over the last 50 years. The South Downs represents one of the major areas of this habitat type in the UK, but due to historic losses, it is estimated that it now covers only around 3% of the South Downs where it is largely confined to steeper north facing slopes. It supports a very rich flora, one of the highest species densities of any habitat in north-west Europe.

Species include many nationally rare and scarce species such as frog orchid, man orchid and round-headed rampion – the ‘Pride of Sussex’. The invertebrate fauna is also diverse and includes scarce species such as the Adonis blue, silver-spotted skipper and the Duke of Burgundy, and south facing grasslands are important for snails including the heath snail. It is an important pollen and nectar resource and bare ground provides nesting habitat for ground nesting bees, wasps and ants.

Lowland Meadows

Of particular interest are the increasingly rare species-rich old meadows and pastures that have a long history of traditional management by hay cutting and/or grazing. Hay meadows are especially important for the range of often uncommon plant species they support, which in turn support large numbers of invertebrate and bird species¹⁸. The High Weald supports nearly 20% of the entire resource of lowland meadow in England, with nowhere else in the country having such a concentration¹⁹. Lowland meadows are fragile and vulnerable to changes or cessation of management practices, but are important fragments of a once more extensive habitat.



📷 Round-headed Rampion © iStock.com/phalder

¹⁸ Sussex Biodiversity Partnership, February 2010. Lowland Meadows Habitat Action Plan.

¹⁹ High Weald National Landscape website: [Wildlife – High Weald](#), accessed 22/02/24.

Waxcap Grassland

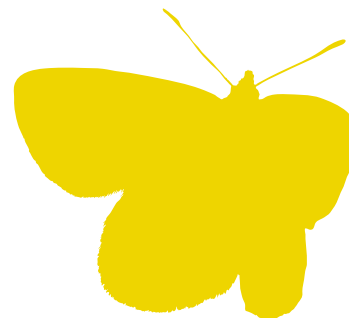
Waxcaps are indicators of undisturbed, nutrient-poor grasslands like ancient pasture and other land that has never been ploughed or fertilised, and often thrive in short, moss-rich, sometimes highly grazed swards, which may be of low interest for flowering plants. Waxcap grasslands are seriously threatened throughout the UK and Europe and local experience shows us that these sites are vulnerable to changes in land use and encroachment from development. Our LNRS area supports several areas known to be mycologically rich, with over 1451ha of waxcap grasslands recorded. Despite the crucial role fungi plays in our habitats, their ecology and overall diversity is poorly understood.

Neutral Grassland

Neutral grassland is a feature of soils with a pH between 5 and 6.5 and which are neither very wet nor very dry. These grasslands can be very variable in appearance and plant communities due to differences in their underlying geology, but are essentially species-rich grasslands and meadows. Crested dog's-tail and black knapweed are constants in this habitat in West Sussex, and our sites support a number of nationally rare or scarce plant species including green-winged orchid and meadow thistle as well as significant vertebrate and mammal fauna. Most of our sites are smaller than 5ha and tend to be evenly distributed along a broad swathe from north-east of Midhurst, then north of Petworth to the east and west of Billingshurst, to an area south of Horsham. Notable concentrations also occur outside this band, e.g. close to the River Arun between Storrington and Watersfield, around East Grinstead and between Westbourne and Chichester near the Hampshire border. There is an additional and uncalculated contribution to the overall resource on roadside verges, in churchyards, along arable field edges, paths, woodland rides and river banks which may contain relic grassland communities.



📷 Parrot waxcap © Neil Fletcher/Sussex Wildlife Trust





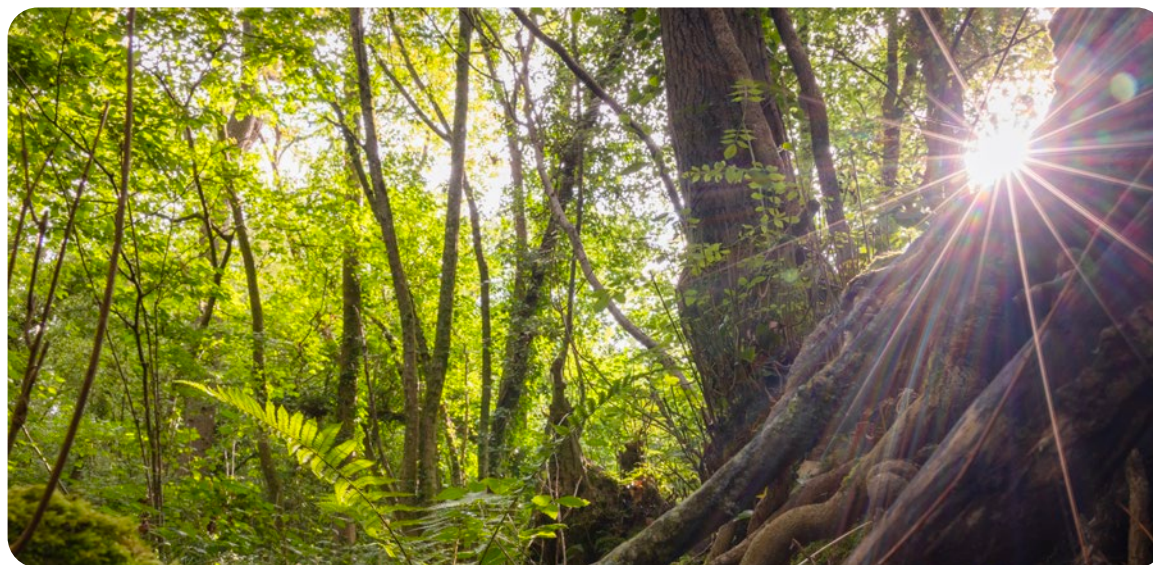
Woodland, Hedgerows & Scrub

Woodland

West Sussex is one of the most wooded counties in lowland Britain. Map 4 (Appendix 1A) shows the distribution of woodland in West Sussex. Most of our woodland is under 2ha in area and most is **deciduous** where at least 80% of the canopy is made up of native species, but there are some large forestry estates which are planted with species including Scots pine, Corsican pine, Norway spruce and Douglas fir. Good examples of near-natural beech woodland can be found at the Mens and Ebernoe Common. Oak-hornbeam woodlands are typical of Wealden clays, with oak-hazel and rare large-leaved lime woodlands found on the western downs.

Oak forest once covered the land surrounding Chichester Harbour and until the end of the 15th century, oak coppice woods were quite widespread. Today, most of this has been lost to other uses such as farming and housing, however, there are still small fragments around the Harbour, especially to the east and north of the area. These attract breeding birds and support two heronries. Old Park Wood and Salterns Copse are ancient semi-natural woodlands with rich ground flora, and the old oak trees coming down to a natural shoreline are a rare feature.

NB Some of these woodland types overlap, so the total extent is not a direct sum.



Woodland Type	Extent (ha)	% LNRS area
Ancient woodland	21,368	10.5
Deciduous woodland	30,411	15.0
Gill woodland	1993	0.1
Traditional orchards	173	0.09
Wet woodland (deciduous woodland within Flood Zone 3)	790	0.4
Wood pasture and parkland	7058	3.5

📷 Woodland in the Lost Woods of the Low Weald and Downs project.

© James Ratchford/WTML



We have several distinct types of woodland. The species composition of the canopy and the ground layers varies greatly, and edges and rides may grade into grassland and scrub. Where soils are poorly drained or seasonally wet, such as on floodplains, along wet flushes, as successional habitat²⁰ on fens, mires and bogs, and in peaty hollows, wet woodland occurs, usually with alder, birch and willows being dominant. Many of our woodlands are **ancient**, i.e. have been continuously wooded since at least 1600 AD. Some of these semi-natural, consisting primarily of native and not obviously planted species, and some plantations on ancient woodland sites, which have been planted, often with non-native species.

Of particular importance are our **gill woodlands**, found in steep-sided, narrow stream valleys, which are not found anywhere else in eastern or central Britain. They have a humid microclimate and lush growth of ferns, mosses and liverworts, some characteristic of the warmer, moister conditions that existed during the Atlantic period.

Wet woodland is scattered on our floodplains, more often found higher up river catchments. Stands are often small, forming strips alongside streams, but can be extensive. A key species of such woodland is the native black-poplar *Populus nigra* ssp. *betulifolia* which is probably our rarest tree; there are currently 45 known mature trees scattered throughout Sussex, all around 100-150 years old. There is a small black-poplar woodland on the edge of Burgess Hill with 19 trees of varying ages which is regenerating naturally, as well as individual mature trees throughout West Sussex, from Burgess Hill in the east to Bognor Regis in the west.

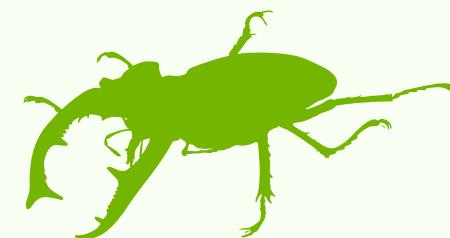
Wood pasture and parkland represents a vegetation structure rather than a particular plant community, managed by a long-established tradition of grazing allowing survival of multiple generations of trees, characteristically with at least some **ancient or veteran trees**²⁰ or shrubs. These woodland communities often form a mosaic with other habitats including grassland, heath and scrub. This habitat type can be of outstanding interest for bats and birds, and they are frequently of national historic, cultural and landscape importance. Important sites Parham Park and Petworth Park are notable for their ancient trees.

Habitat structure is also the defining feature of **traditional orchards**, with planting density and management being the main distinguishing features²⁰. Traditional orchards comprise large trees planted in rows at a low density (150 per ha) with a grass sward underneath and are often grazed by livestock. Orchards were once more widespread in West Sussex, particularly in the north areas of the County, where several notable apple varieties originate. They are valuable for the local landscape and community enjoyment as well as for wildlife²¹.

Nationally, the coverage of deciduous woodland has declined significantly since the 1960s as a result of clearance and replanting with non-native species, with the area of ancient woodland declining in area by 30-40% in the same period. The quality of woodland in West Sussex is also thought to be in decline. Many species of conservation concern rely on woodland, including hazel dormouse, barbastelle and Bechstein's bats, lesser spotted woodpecker and the cheese snail.

²⁰ Traditional orchards (UK BAP Priority Habitat description) (jncc.gov.uk)

²¹ Orchards (highweald.org)



Hedgerows

A hedgerow is any continuous boundary line of trees or shrubs over 20m long and less than 5m wide at the base. It includes ‘classic’ shrubby hedgerows, lines of trees, hedgerows with trees and very gappy hedgerows (where the gaps are less than 20m). All hedgerows consisting predominantly (80% or more cover) of at least one woody UK native species are priority habitats²².

As well as their biodiversity importance, hedgerows have farming, landscape, cultural and archaeological interest. Hedgerows in the Coastal Plain, South Downs and possibly parts of the upper and lower greensands are likely to have been cleared pre-history and subsequently lent themselves to extensive open-field farming, with the hedgerows in these areas likely to have emanated from medieval, early Tudor or possibly later parliamentary enclosures²³.

We have about 6268km (kilometres) of hedgerows in West Sussex comprising 30 woody species. Dense species-rich hedgerows lining lanes are a typical feature of Chichester Harbour National Landscape. These have an abundance of species such as hazel and maple which are typical of old pre-17th century hedgerows. There are also hedgerows of more recent date, consisting largely of hawthorn²³. Historically, mature trees have been grown in hedgerows, mainly ash and pedunculate oaks, the latter grown for timber for shipbuilding. Mature trees greatly enhance the wildlife benefits of a hedgerow.

Hedgerows are particularly important for butterflies and moths, farmland birds, dormice and bats, the latter using them for commuting from roosts to foraging areas. They are similar to woodland edges, and are an essential component in maintaining

wildlife corridors between areas of woodland which are becoming increasingly fragmented. Other species that depend on hedgerows include the brown hairstreak butterfly and linnet, both of which are in national decline. Our characteristic hedgerow species include hawthorn, blackthorn, field maple, hazel, hornbeam and pedunculate oak.

Modern management practice, including flailing, severely limits the opportunities for mature tree regeneration, and failure to replace lost or damaged trees will alter the landscape and greatly reduce biodiversity. It is estimated that about 45% of hedgerows were lost in England and Wales between 1945 and the mid 1980s. It is also estimated that 42% of hedgerows in Sussex are unmanaged; many are very gappy and reverting to tree-lines, thus providing a different habitat and ceasing to be protected under the [Hedgerow Regulations](#). Removal of hedgerows can also lead to soil erosion.



Blackthorn hedgerow © Sussex Wildlife Trust

²² Sussex Biodiversity Partnership, 2010. Hedgerow Habitat Action Plan.

²³ [Chichester Harbour AONB Landscape Character Assessment](#), 2019.

Scrub

Scrub is hugely valuable for wildlife, providing food, shelter, breeding and roosting sites. It may be scattered bushes or closed canopy vegetation, occasionally with a few scattered trees. Good scrub has a diverse structure with different heights, but is usually less than 5m tall²⁴. Many scrub plants are pioneers, which grow fast and can colonise open rapidly when not managed.

Most scrub in Britain is seral, forming a stage in the transition from open vegetation to woodland, and it can grow in a range of environments including coastal wetlands, grasslands and heathlands, forming a mosaic²⁵. For example, mixed scrub and chalk grassland are often adjacent to each other and have a symbiotic relationship. As a common and dynamic habitat, we do not know exactly how much we have in West Sussex, but best estimates are that there is 500-600km² of scrub in England²⁶.

Tall herbs at the scrub edge are vital to many grassland invertebrates that need nectar-rich shrubs to complete their lifecycles. Hawthorn, blackthorn, bramble and herbs provide early pollen and nectar and foraging habitat for herbivorous and predatory invertebrates in their adult and larval stages. Reptiles use south facing scrub for basking and hibernation, for example heathland gorse scrub edges are perfect for basking adders, and scrub provides a corridor for linking wetland habitats for amphibians.

Scrub is hugely important for birds and the fruit and seeds provide autumn and winter food for resident and migrant birds^o and mammals. Yellowhammer and linnet nest in low, dense scrub edges, and nightingale and turtle dove need thickets of dense scrub with a margin of rough grass. Other key species dependant on scrub in West Sussex include brown hairstreak, juniper carpet moth, wild liquorice and fly orchid.



📷 Brown hairstreak © iStock.com/Matt_Gibson

²⁴ Defra farming blog: create scrub and scrub mosaics.

²⁵ Defra farming blog: create scrub and scrub mosaics.

²⁶ Mortimer, S.R. et al, 2000. *The nature conservation value of scrub in Britain*. JNCC Report No. 308.



Lowland Heathland & Sandstone Outcrops

Map 5 ([Appendix 1A](#)) shows the distribution of lowland heathland and sandstone outcrops in West Sussex.

Heathland (including dry acid grassland)

A heathland is an open landscape dominated by low-growing plants, mainly heather and gorse as well as bracken, grasses, herbs and mosses. These are interspersed with areas of bare ground and scattered trees, providing important habitat for a diverse range of invertebrates, birds and reptiles. Wetter heath areas and acidic ponds provide important habitat for dragonflies and damselflies. Soils are acidic and free-draining with very low nutrient levels.

The **lowland heathlands**, which include areas of **wet heath**, on the Lower Greensand are of great biological value and are probably older than Ashdown Forest in East Sussex. However, they are fragmented into small blocks scattered in a narrow belt along the Lower Greensand ridge from Storrington to Petersfield. The South Downs retain areas of **chalk heath**, a rare habitat that develops on acidic deposits overlying chalk on which an interesting mix of chalk grassland and heathland plants are found.

In West Sussex, **acid grassland** is characterised by low growing wildflowers and grasses, heather and gorse, with communities differing depending on local and regional variation in soil and moisture, but always including specialised species. They often have a high cover of bryophytes and lichens and support a number of specialist invertebrates that are not found in other types of grassland. Acid grasslands are uncommon in lowland Britain and often form a mosaic with heathland. All sites in West Sussex are relatively small – all below eight hectares and most less than five.



Heather © Wim van 't Einde/unsplash.com



In total, we have 1500ha of heathland and acid grassland in West Sussex, of which 875ha (c. 58%) lies within designated sites. The total extent has decreased by approximately 70% in the past 100 years and the average size of heathland patches has declined from 11.1ha to 2.4ha, indicating significant habitat fragmentation. Despite this, our resource across Sussex represents about 5% of the national area. All the UK native reptiles, including the rare smooth snake and sand lizard, and amphibians have been recorded on the greensand heaths and they support internationally important populations of woodlark²⁷. These areas are also important for invertebrates, many of which depend on warm, sheltered positions, with areas of bare earth and a good source of nectar or prey. Key species include the southern bronze furrow bee and the wood/heath tiger beetle which is only present in a few locations where there is a diversity of successional stages.

Sandstone Outcrops

The physical shape and configuration of sandstone outcrops, including vertical walls, ledges, crevices, caves, cracks and gullies, means that they support a wide variety of microhabitats^o which in turn support specialised species, most notably liverworts and mosses. These microclimates allow species that are normally found in the damp west of the UK to survive in the relatively dry south-east; as such, they are of considerable importance for biodiversity, as well as being of significant geological and often cultural interest. Sandstone outcrops show greater species diversity than other exposed rocks, such as abandoned quarries. Important species in West Sussex include Tunbridge filmy-fern.

Sandstone outcrops are rare in West Sussex and most of our sites are small and fragmented, with only 5ha in total, of which nearly 60% are designated for their biological and/or geological interest.

²⁷ Sussex Biodiversity Partnership, 2010. *Lowland Heathland Habitat Action Plan*.



📷 Sandstone Outcrops in the High Weald National Landscape. © iStock.com/HerbySussex



Rivers, Streams & Aquifers

Our wetlands are a major wildlife resource covering a huge portion of West Sussex. There are many different types, each with its own particular environmental characteristics, vegetation and suite of species adapted to using it. Freshwater habitats include rivers and streams, lakes and ponds, grazing marsh and wet grassland, reedbed, fen, aquifers and springs and bogs. Map 6 ([Appendix 1A](#)) shows the distribution of wetland habitats in West Sussex.

Rivers & River Systems

Our **river** systems include our main rivers – the Western Rother, Arun, Adur and Ouse – and their network of tributaries, streams and channels. We have 3491km of rivers of which 627km (18%) receive some degree of protection from designation. They change greatly in character from their source, ranging from fast-flowing headwater streams to slow-flowing meandering rivers in our broad valleys and floodplains. Major floodplain systems are found on the Arun, Adur and Ouse, with our major catchment draining to low-lying coastal plains at Chichester, although Crawley drains north into Surrey and the Thames.

Most of our main river floodplains are isolated from the rivers which support them and so do not function naturally. Man-made flood embankments separate the majority of our estuaries and main rivers from their floodplains which results in there being very limited natural estuarine habitat. Large parts of our coastal plains are already below sea level, and are protected by man-made sea defences and pump drainage which contributes to the lowering of land levels in the face of rising sea levels. Some rivers and streams have been entirely destroyed, drained or filled in. The majority have suffered less detectable changes through centuries of management,

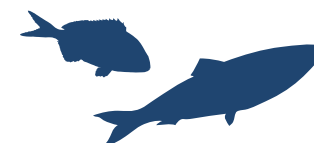


exploitation, dredging and development, and through the cumulative effects that the changing land use around them has caused in flow, sediment, erosion and pollution levels. During the last 100 years, there has been a substantial loss of good quality river channel and riparian habitat due to the straightening, diversion, over-deepening, widening, obstruction, pollution, reduction in water flows due to abstraction, and continual dredging and management of the majority of the County's rivers and streams. It is unlikely that there is any truly untouched stream or river in Sussex.

At least 80% of the rivers in the South East are failing the Water Framework Directive's 'Good Ecological Status', so it can be extrapolated that nearly 2,800km of rivers and streams in West Sussex are in need of ecological rehabilitation or restoration. Gravel riffles and pool sequences along with large woody debris structures, natural rock formations and gullies along our rivers support plants such as water crowfoot as well as freshwater invertebrates including mayflies, willow flies, freshwater shrimps, and pea mussels as well

Kingfishers

© Arun and Western Streams
Catchment Partnership



as rare water beetles. Key river species include water vole, sea trout, European eel and white-clawed crayfish.

Chalk Streams

Chalk rivers or streams flow across or are influenced by chalk bedrock. They are usually fed by underground or seasonal springs and often have winterborne stretches which dry in late summer. Chalk geology is rare worldwide and England has most of the chalk rivers in Europe. There are only about 35 chalk rivers in the whole of the UK, with two in West Sussex – the Ems and Lavant – making our chalk rivers and streams of global importance.

South Downs chalk streams are set apart from others in that they have their source high in the hills, making the gradient steeper. They are small, steep and fast flowing channels, which often run through small wooded valleys. Being fed by groundwater, they are clean and clear and have a relatively stable temperature. These unique conditions support an unusual diversity of wildlife including important fish populations and many specialist insects. They harbour some of the most specialised communities of plants, insects and other wildlife in the LNRS area, including rare mosses and lichens²⁸.

There are 107km of chalk streams in West Sussex, of which only 8km (7.5%) are designated. Across Sussex, there remains at least 100km of potential chalk streams which could be added to this resource if surveyed. Less than 20% of our chalk streams are deemed near natural. Many are heavily impacted by surface water run-off from surrounding land use, sedimentation, obstructions such as weirs, invasive species, water abstraction and climate change.

Aquifers

Water that permeates into the ground and is stored within the rock is referred to as an **aquifer**. The chalk aquifer of the South Downs is one of the major aquifers in the UK supplying groundwater to the urban areas of Worthing and Chichester in West Sussex, as well as Brighton and Eastbourne in East Sussex and Portsmouth in Hampshire. It is susceptible to pollution from a variety of sources including leachate migration⁹ from landfill sites, diffuse pollution from agriculture, and point source pollution from urban environments. The restoration and expansion of priority habitats such as chalk grassland will help protect our aquifer²⁹.



📷 Mallard and brown trout in chalk stream © iStock.com/Paul Colley

²⁸ Southgate, F, 2012. [The Wetland Potential of Sussex](#). Sussex Wildlife Trust.

²⁹ Jones, H.K. and N.S. Robins (Eds), 1999. [The Chalk Aquifer of the South Downs](#). British Geological Society.



Wetlands & Standing Water Bodies

Wetlands

Our rivers and river systems support the hydrological function of our wetlands. These are many and varied and include reedbeds, floodplain grazing marsh and wet grassland, peatland habitats including bogs, mires and fens, as well as standing water bodies ranging from reservoirs and lakes to ponds and ditches.

Peatlands receive water and nutrients from the soil, rock and groundwater as well as from rainfall. They can be groundwater fed (basin and floodplain fens) or rain and run-off fed (valley mires, springs and flushes). There are 195ha of fen in West Sussex, of which nearly 75% are within designated sites. However, there is little accurate survey information and small, fragmented sites are often found alongside other types of wetland habitat. Whilst it is likely that all the major areas of true fen in our LNRS area have been mapped, there may be other valuable fragments surviving, so the true distribution and location is not known. Our largest fen is in the upper Arun Valley (c. 6ha on a private farm), with other areas at Amberley Wildbrooks (two fragments totalling nearly 7ha) and Pulborough Brooks (two fragments totalling 5.8ha). Across Sussex there are only 18 fen sites recorded with an area of over 1ha, and only seven have an area of over 2ha. These peatlands support a diversity of animal and plant communities including higher plants, such as cowbane, marsh fragrant-orchid and blunt-flowered rush, as well as dragonflies and other invertebrates such as variable damselfly and the spider *Hygrolycosa rubrofasciata*.

Reedbeds are 'single species' wetlands dominated by over 60% cover of common reed – a perennial, flood tolerant grass that grows to over 2m high. In the UK, the majority are found in river floodplains and low-lying coastal areas. Drainage, development and pollution has led to the loss of huge areas of reedbed, and most of the reedbeds in West Sussex are small and fragmented. Many occur around the silty margins of ponds and lakes, with their size fluctuating depending on water levels and pond management.



Bearded tit © iStock.com/suerob



The total area of reedbed in West Sussex is just over 60ha, 90% of which lies within designated sites. Lavington and Ladywell support ‘specialist’ reedbeds, with a pure chalk spring water course, and there are brackish reedbeds along the coast, where they are widespread in the upper parts of Chichester Harbour inlets and in pools and creeks within embanked marshes. The most important sites here are on Thorney Island next to Little Deep and at Fishbourne. Reedbeds naturally filter and clean water and trap sediments, and are fantastic habitats for wildlife, especially birds. Cokeham Brooks reedbed is crossed and bordered by wet ditches and is especially valuable for birds such as warblers and starlings³⁰. Some of our key reedbed species include marsh harrier and the spider *Pardosa paludicola*.

Grazing marsh is pasture or meadow that is occasionally flooded, with a network of drainage ditches with fresh or brackish standing water. The **ditches** are usually manmade, originally installed to drain marshland and low-lying fields for farming. Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities. Grazing marshes are particularly important for breeding waders such as snipe, lapwing and curlew as well as for wintering birds such as Bewick swan. The ditch network tends to support the majority of the biodiversity, with these and other more natural wetland features supporting a wide variety of emergent and submerged plants, and often important for invertebrates including dragonflies and water beetles.

We have about 3,383ha of grazing marsh of which less than a third lies within designated areas. Extensive areas of coastal grazing marsh have survived around Chichester Harbour, often showing a



📷 Burton Mill pond © Robin Crane/Sussex Wildlife Trust

transition from unimproved rushy saltmarsh to brackish wet grazing marsh grassland or rank couch grass grazing marsh, to unimproved non-coastal fen meadows and pasture. Some of our coastal grazing marsh is floristically rich where there is light grazing, but becomes poor where grazing is ceased and the grassland is ranker. The unimproved coastal grazing marsh behind the sea wall provides feeding grounds for geese and major high tide wader roosts³¹. Surveys of grazing marsh within the Arun valley have shown that over half of the designated grassland surveyed was agriculturally improved, 20% was species poor and less than 20% could be considered as diverse inundation grassland with good habitat structure. Overall, it is estimated that only 20% of our grazing marsh is of high enough quality for wildlife³².

³⁰ Adur Local Plan, 2017.

³¹ Chichester Harbour AONB Landscape Character Assessment, 2019.

³² Floodplain meadow and washland | Sussex Wildlife Trust

Standing Waterbodies

Ponds are small waterbodies between 1m² and 2ha which usually hold water for at least four months of the year³³. Even very small waterbodies can have high conservation value, as can semi-seasonal and temporary ponds which may dry up in the summer, as these can support both specialised and ecologically valuable communities. We estimate that we have more than 7714 ponds in West Sussex. They are an important open water resource, as well as refuge habitats⁹ for amphibians and reptiles, dragonflies and damselflies, aquatic plants, mammals and birds. We are a stronghold for great crested newts, and other important species include the pondweed leafhopper which nationally is only found in six ponds in south-east England, and the crystal moss animal which was recently recorded from Burton Mill Pond, one of only three sites in the country.

Lakes are waterbodies greater than 2ha which hold water permanently. They are usually ancient ecosystems formed by geomorphological processes, while **reservoirs** are relatively young environments constructed to meet human needs³⁴. They are highly productive because plant nutrients are plentiful and are characterised by having dense, long-term populations of algae in mid-summer, often making the water green. Their beds are often covered by dark anaerobic⁹ mud, rich in organic matter. Bottom dwelling invertebrates are abundant, and the plentiful supply of food can support large populations of wildfowl. We have no data on the extent of our lakes, but we have one large water storage reservoir, namely Ardingly Reservoir, near Haywards Heath. This is home to more than 60 species, including kingfisher and nightingale, and is occasionally visited by migrating osprey³⁵.

³³ Pond Conservation Group, 1993. *A Future for British Ponds. An agenda for action*. Pond Conservation Group.

³⁴ [Freshwater Research News: reservoirs as biodiversity hotspots](#).

³⁵ [Ardingly Reservoir | South East Water](#)



Great crested newt © iStock.com/MikeLane45





Urban Nature

Nearly 900,000 people live in West Sussex, with about 80% of the population in urban areas, currently estimated to cover about 6% of our LNRS area. Urban nature is important for a number of reasons: lots of our wildlife is now dependent on urban areas, e.g. house sparrows and hedgehog; being in or close to nature is important for our health and wellbeing; and urban nature provides a vital link between our towns and cities and the countryside. Peregrine falcons nest on Chichester Cathedral and our towns and cities are a stronghold for breeding swifts.

Urban greenspace can include green roofs, street trees, verges, urban parks and gardens. Landscape around buildings can be designed to include green infrastructure⁹ such as tree planters, ponds, grass and lawn areas, green roofs and sustainable urban green drainage systems (SuDS). Private gardens can also offer a significant resource for urban wildlife. These greenspaces offer multiple benefits like providing shade, reducing urban run-off and pollution, and regulating temperatures, but they also provide important wildlife corridors and stepping stones to help species move across the landscape.



Starling © Gurjit Sandhu/unsplash.com

Urban greenspaces in West Sussex include:

- Allotments and community gardens;
- Amenity greenspace (e.g. areas used for informal recreation and village greens);
- Cemeteries and religious grounds;
- Civic space and market squares;
- Green and blue corridors and cycleways;
- Natural and semi-natural greenspace;
- Parks and gardens;
- Outdoor sports grounds (e.g. playing fields and golf courses);
- Provision for children and young people.

Our best estimate is that about 40% of our urban areas is green space, although not necessarily all of this will be good for biodiversity.



4.4 Species

West Sussex is rich in biodiversity, with 14,390 species recorded in the last 20 years, including everything from diatoms (single celled algae) to mammals. 20% of these are of conservation concern, meaning they are rare, threatened or declining, and nearly 3.5% are legally protected. Our most diverse groups are fungi, flowering plants, beetles, moths and flies, with the number of species recorded in each of these groups close to or exceeding 1500. All 18 of our native species of bats have been recorded in West Sussex, we have all 13 native amphibians and reptiles, and nearly 42% of our birds are either Red or Amber Birds of Conservation Concern. Whilst only 0.8% of the species recorded are invasive non-natives, the fact that we have 112 of these species within the LNRS area highlights the need for targeted action.

The species longlist for West Sussex, made up of species of national conservation concern, included nearly 900 species, ranging across all the major species groups. Shortlisting in line with LNRS guidance resulted in 163 species being identified as priorities for nature

recovery, of which 115 were grouped into 19 [assemblages](#)⁹ (groups of plants and animals that would benefit from similar management measures). Priority species include some of our rarest species, some that are considered iconic of the area, and some that are relatively widespread but that resonated strongly with the local community. For the full list of Priority Species and associated measures, see Part 3.

The **mouse-eared bat** is the rarest bat in Britain with just two individuals present, both within the South Downs National Park in West Sussex. It is no longer officially counted as a resident species as no maternity sites have been found for many years. However, a single male was found hibernating in 2023, and a second bat was recorded hibernating in the same area in 2025. Most excitingly, this was an adult breeding female, the first identified since the 1980s. This brings real hope that the species could bounce back from extinction, so it is vital that the LNRS supports its recovery.



📷 Field cricket
© iStock.com/Michal Fuglevic



📷 Grayling
© Derek Middleton/Sussex Wildlife Trust



📷 Round-headed rampion
© Ben Rainbow



📷 Glow-worm
© Don Baker

The only known UK population of the **lagoon spire snail** is from a single weakly brackish lagoon on Thorney Island. Long term habitat management is essential to retain this single, vulnerable population. Arguably, the species most iconic of the LNRS area is **round-headed rampion** – a chalk grassland plant that is found on Downs in Wiltshire, Hampshire and Surrey, but nowhere so frequent as it is here, so much so that it is known as the ‘Pride of Sussex’.

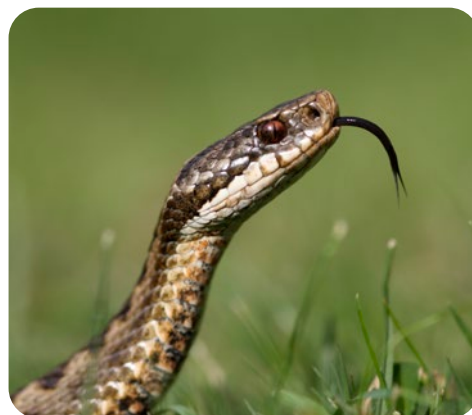
Other priority species which are not so restricted in their distribution are the hedgehog and the glow worm. **Hedgehog** populations have undergone a significant decline in recent decades, and are now largely restricted to our urban areas, where they are becoming strongly dependent on networks of private gardens. Hedgehogs were the most popular species from our public surveys, with 21% of our respondents mentioning them, and are considered to be a champion species for urban habitats. The **glow-worm** is another iconic species which, although well distributed and relatively common in West Sussex, is declining and has been lost from some sites, and therefore has been prioritised.

Species that have not been shortlisted but that will be supported by habitat measures include the barn owl, bastard-toadflax and adder. West Sussex is important for all of these species, but they will benefit from our measures to enhance, expand and recreate their core habitats. Also amongst this list is the great silver water beetle, the UK’s largest insect. Although nationally scarce and restricted to grazing marshes in the south and east, there are scattered records from wetland sites in West Sussex and it will benefit from nature recovery action in these areas.

Another species that has not been shortlisted is the native black-poplar. This is a rare and declining species in the UK, and is most frequent in parts of East Anglia and some central areas but very scarce in the South East. Despite that, about 45 mature trees are known across Sussex, and a hugely successful restoration programme has seen about 8000 saplings planted across both counties. In addition to our priority species, the LNRS will support at least 338 species of conservation concern.



📷 Female hedgehog with hoglets
© iStock.com/slowmotiongli



📷 Adder
© iStock.com/MikeLane45



📷 Barn owl
© Oliver Walters



📷 Black-poplar
© Kate Ryland

4.5 Nature Networks & Wildlife-rich Habitats

The above habitat descriptions relate to specific habitat types. In reality, these habitats rarely exist in isolation, but more often occur together to form a mosaic. Natural succession means that many habitats will develop into others over time – grassland will become scrub, scrub will become woodland. Part of nature conservation is to manage these changes, but often our most valuable areas are those transitions or ecotones where one type of habitat grades into another. It is also seldom the case that nature recovery projects will concentrate on creating a single habitat. Indeed, lots of the positive actions already being taken for nature recovery in West Sussex, such as Wilder Horsham or the creation of habitat banks for biodiversity net gain, are aimed at creating a range of different habitat types.

Many of our priority species are not restricted to one habitat type, but rather need a mosaic of different habitats in close proximity to flourish. A good example is the turtle dove which needs dense scrub for nesting, seed rich arable margins with patches of bare ground and a nearby source of water. Similarly, grey long-eared bats often roost in farm buildings, but they rely on grassland meadows and woodland edge for foraging. As many of our habitats are fragmented by development, farming and infrastructure, nature recovery must consider how and where we can better connect our semi-natural habitats. Providing green or blue corridors, like hedgerows or ditches, or improving and expanding existing habitats, helps wildlife to move through the landscape, building resilience and expanding into new areas.

Because of this, some of our priorities relate to the creation and strengthening of nature networks and wildlife-rich areas. Such projects are absolutely fundamental to nature recovery at scale, and are firmly embedded in our guiding principles around habitats needing to be bigger, better, more and joined-up for wildlife.



📷 Turtle dove at Woods Mill © Neale Ambrose/Sussex Wildlife Trust

4.6 Protected Sites

Designations

The value of West Sussex for wildlife and beauty is recognised by the areas designated for their nature conservation interest. Some are protected under international agreements or national legislation and some under local policies. The following table shows the extent of these **protected sites** in West Sussex.

SSSIs support habitats and/or species of national importance, and represent our best sites for wildlife and geology. Within these nationally important areas, some are additionally designated as NNRs – these recognise some of our most important habitats, species and geology and are considered to be the ‘jewel in the crown’ of our SSSIs. SACs are internationally important sites for habitats and species, SPAs are internationally important sites for birds, and Ramsar sites^o are internationally important wetlands. All of these sites are protected by law.

Designation	No. of Sites	Extent (ha)	% of LNRS Area
Ramsar wetlands	3	3,725	1.8
Special Areas of Conservation (SAC) ^o	8	3,672	1.8
Special Protection Areas (SPA) ^o	4	4,150	2.1
Sites of Special Scientific Interest (SSSI) ^o	77	8,310	4.1
National Nature Reserves (NNR)	2	222	0.1
Local Nature Reserves (LNR)	30	2,075	1.0
Local Wildlife Sites (LWS) ^o	291	10,735	5.3
Total extent of national & international designations*		8,794	4.3
Total extent of all designations*		19,412	9.6

*NB designations can overlap so total extents are not a direct sum.

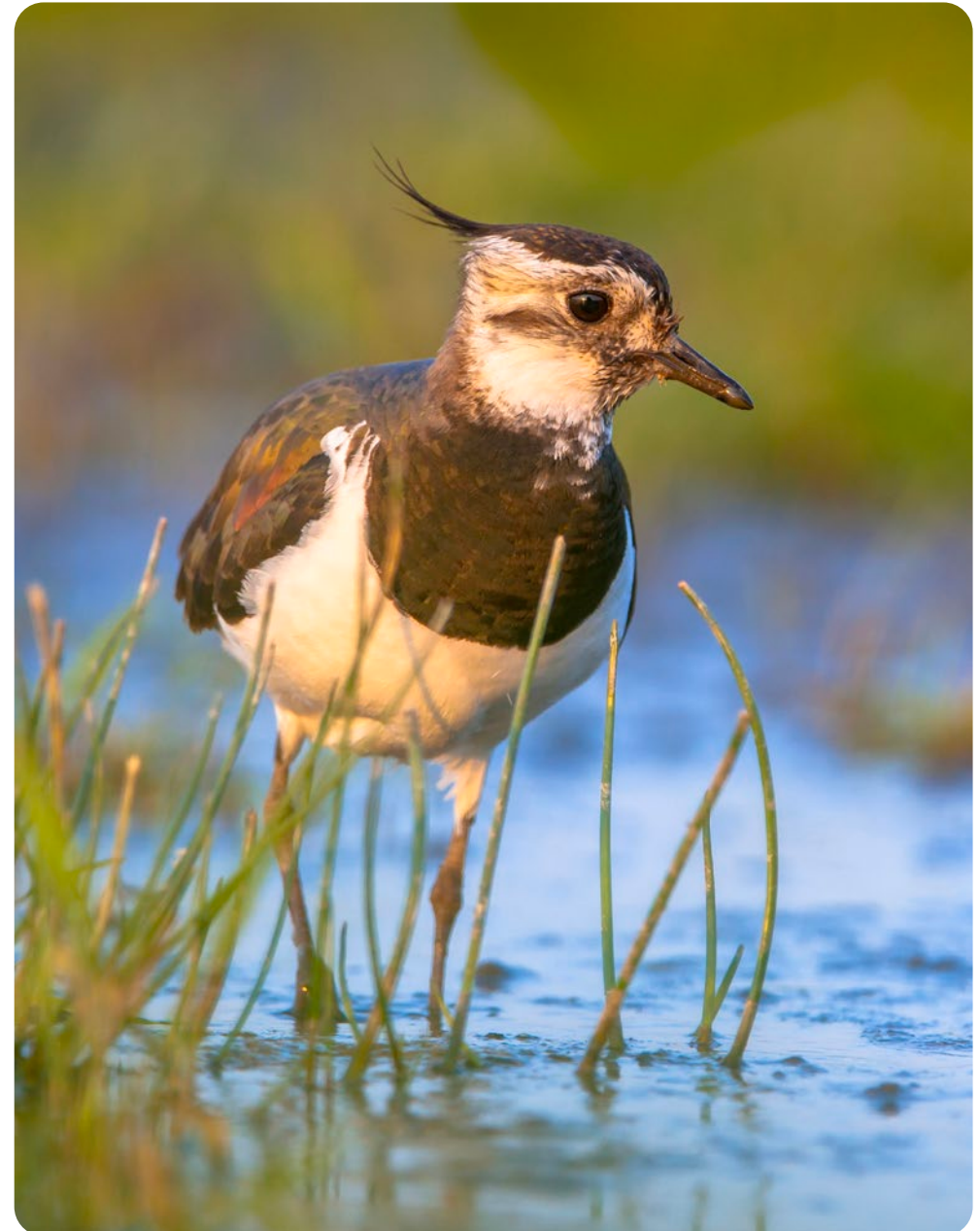


Amberley Wildbrooks © Caroline Pearce/Sussex Wildlife Trust

Locally important sites can also be designated and protected through policy. LNRs are locally important for wildlife, geology, education and enjoyment, and LWSs contain features of substantive wildlife value, and are meant to provide more comprehensive coverage of important areas for wildlife than SSSIs.

Some sites can have multiple designations due to their importance for a range of wildlife. For example, Chichester Harbour is a National Landscape, of local through to international importance, with the coastal plain encompassing a diverse range of marine, intertidal and lowland habitats. It is a SSSI for its wintering wildfowl and waders as well as breeding birds and for the wide range of habitats with important plant communities, a Ramsar site for the estuary and the passage and wintering birds it supports, an SPA for its wintering wildfowl and waders and its breeding terns, and an SAC for its coastal and intertidal habitats and for Desmoulin's whorl snail. It also includes several LNRs.

Ebernoe Common is a nationally important large ancient woodland. It is a SSSI for its range of habitat communities, rich lichen and fungal communities, diverse woodland breeding bird assemblage and nationally important maternity roosts for barbastelle and Bechstein's bats, an SAC for its beech forests and bats, and it includes a NNR.

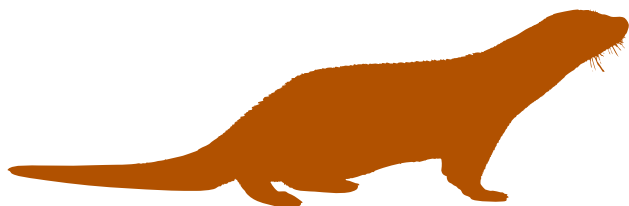


📷 Lapwing © iStock.com/CreativeNature_nl

State of Nature

There is no comprehensive view of the State of Nature in West Sussex due to a lack of resources and investment. We therefore have to use the condition of our protected sites as a proxy measurement for the state of our most important wildlife sites.

Designation of sites for nature conservation does not necessarily always mean that these sites are in good condition. The condition of SSSIs is assessed by Natural England, and West Sussex County Council regularly reports to Defra⁹ on the condition of our LWS in positive management. For SSSIs, West Sussex is on a par with or slightly below the national average, with about 62% of our SSSIs in either favourable or recovering condition. The condition of our LWS is less certain as these values have been calculated based on our best available information, such as whether or not LWS are under environmental stewardship or have management plans for biodiversity rather than on-the-ground assessments. However, more than 55% of our LWS are being managed positively for biodiversity.



Willand Wood Ebernoe © Mark Monk Terry/Sussex Wildlife Trust

Protected site	Condition	% England	% of LNRS Area
SSSI	Favourable	33.56	33.46
	Unfavourable – recovering	45.15	28.66
	Unfavourable – no change	8.74	3.47
	Unfavourable – declining	12.44	34.40
LWS	Site in positive management	39	55.26
	Site not in positive management	-	4.81
	Site has insufficient evidence	-	41.92

4.7 Irreplaceable Habitats

Some of our habitats would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity³⁶ – these are collectively called **irreplaceable habitats**⁹. Within West Sussex they include ancient woodland, ancient and veteran trees, coastal sand dunes, saltmarsh (spartina saltmarsh swards and mediterranean saltmarsh scrub) and lowland fens³⁷. Ancient woodland includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS), ancient wood pasture and parkland (AWPP) and infilled ancient wood pasture and parkland (IAWPP).

The exact extent of irreplaceable habitat within the West Sussex LNRS area is not known, as our habitat mapping is not refined enough to distinguish between the different types of saltmarsh, not all of which are classed as irreplaceable. Similarly, the extent of ancient wood parkland and pasture is not known, nor is the or area covered by ancient and veteran trees, and there are many of these trees which are as yet unrecorded.

Within West Sussex, we consider that chalk streams and sandstone outcrops would meet the definition of being irreplaceable, although they are not formally recognised as such.



📷 Kingley Vale © Alice Parfitt/Sussex Wildlife Trust

Irreplaceable Habitat	Area (ha)	% of LNRS area
Ancient woodland (ASNW + PAWS)	23,368	11.5
Ancient woodland (AWPP + IAWPP)	Unknown	Unknown
Ancient & veteran trees	Unknown	Unknown
Lowland fens	195	0.1
Coastal sand dunes	36	0.02
Spartina saltmarsh swards	Unknown	Unknown
Mediterranean saltmarsh scrub	Unknown	Unknown

36 National Planning Policy Framework, December 2023.

37 The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024.



4.8 What nature does for us

The 'natural capital' of West Sussex

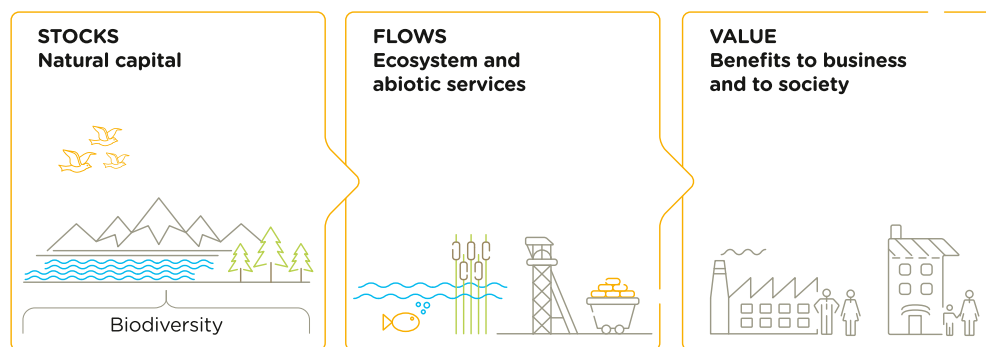
What is natural capital?

Our ecosystems, habitats, species and soils deliver a range of 'ecosystem services' that are essential for human life. These include food, fuel, clean air, clean water, pollination, carbon storage and sequestration^o, nutrient cycling^o, and opportunities for recreation which in turn supports our health and wellbeing. Nature acting in this way can be thought of as 'natural capital', with each element (habitats, species, soils etc) acting as a natural capital **asset**.

Figure 2. Natural Capital flow diagram

(Adapted from Natural England, 2021. 2nd edition.

How to start using your natural capital atlas).



For nature to deliver the benefits we depend on, three factors are important:

- How **much** we have (quantity/area of habitats, soils etc);
- How **healthy** it is (habitats, soils etc. must be in good ecological condition and able to function in a way that can provide services and benefits);
- **Where** it is (is it located where we need it to be in order to deliver specific services?).

Natural Capital and Local Nature Recovery Strategies

When developing an LNRS, it is important to understand *how* nature can help to deliver vital benefits and services and *where*. This helps to direct action and investment to where it will support wildlife but also deliver additional benefits that are of value to our local society and economy. Two approaches are particularly important:

- Creating more effective 'nature networks' of bigger, better, more and joined-up habitats, supported by healthy soils and more natural processes^o in our landscape. By doing this we will bring our natural capital into better health, and as a result deliver more benefits and services for people.
- Using nature in very specific ways to deliver benefits where we need them most, for example planting trees or grassland buffers along our rivers to support water quality or reduce flood risk. These sorts of approaches are known as 'nature-based solutions'.

Benefits and services provided by natural capital assets in West Sussex and Brighton & Hove

Table 1 gives an indication of the likely benefits/services that each habitat type (or asset) provides, as actual levels will depend on their quality, quantity and location. However, it is a useful checklist to have in mind when creating or enhancing habitats with a view to delivering benefits for nature and people.

Across Sussex, the pressure on some of our natural capital is such that we risk losing not just the habitats, but also the benefits they provide.

In 2019, the Sussex Nature Partnership identified our '*natural capital at risk*', habitats that are:

- Not adequately protected under existing mechanisms;
- Fragile or vulnerable and/or already highly fragmented;
- Of particular significance in a Sussex context;
- Irreplaceable or not easily re-created if destroyed (either on-site or elsewhere).



The habitat types included in this list are:

- Lowland heathland
- Mudflats and saltmarsh
- Coastal vegetated shingle
- Reedbed, fen and grazing marsh
- Floodplain woodlands
- Species-rich grassland

These habitats have been prioritised within this LNRS for enhancement and expansion, as a means to support wildlife and increase the resilience of these 'at risk' natural capital assets.



📷 Wildflower meadow, South Downs © iStock.com/Lemanieh



Table 1. Ecosystem services and benefits provided by natural capital in West Sussex

	Food/Fibre	Water Supply	Climate Regulation	Clean Water	Pollination	Wild Species Diversity	Hazard Regulation (flooding and erosion)	Cultural
Coastal Habitats	✓ Grazing (saltmarsh)	✗	✓ Carbon storage & sequestration	✓ Water purification & detoxification (saltmarsh)	✓ Pollinator habitat (saltmarsh and sand dunes)	✓ Wildlife habitat, feeding and roosting, nursery grounds for fish	✓ Coastal flood & erosion mitigation	✓ Aesthetic value, sense of place and accessible nature
Farmland	✓ Food production; timber; fibre (wool)	+/- Depends on management Management of land and habitat creation can assist with flow regulation (storage and recharge) However, impact may be negative when poor soil management increases run off.	+/- Depends on management Negative impacts come from emissions of GHG and depletion of soil carbon This can be improved or reversed through farming system and soil management	+/- Depends on management and location Negative impacts come from run-off from farmland which is a common source of diffuse pollution and sedimentation This can be improved through farming system, soil management and creation of vegetation buffers along water courses	+/- Depends on management Habitats created on farmland can provide vital habitats for pollinators However, negative impacts on pollinators come from the use of pesticides and loss of habitats	+/- Depends on management Semi-natural habitats on farmed land provide important habitats for wildlife; farmland may be particularly important for specialist species Farmland may offer few opportunities for wildlife if areas of habitat are small or not managed for nature	+/- Depends on management Farmland can provide positive benefits for surface and fluvial flood mitigation However, it may also be a contributor to soil erosion and increase in potential for downstream flooding	✓ Aesthetic value, sense of place and accessible nature (where available via footpaths, access land etc)
Species-rich Grassland	✓ Meat (grazing, hay)	✗ Water quantity	✓ Carbon storage and sequestration	✓ Detoxification and purification	✓ Supports pollinators	✓ High value wildlife habitat	✓ Surface and fluvial flood mitigation	✓ Aesthetic/ sense of place; accessible nature

Table 1. Ecosystem services and benefits provided by natural capital in West Sussex

	Food/Fibre	Water Supply	Climate Regulation	Clean Water	Pollination	Wild Species Diversity	Hazard Regulation (flooding and erosion)	Cultural
Woodland & Hedgerows	✓ Timber	✓ Water quantity and flow regulation – especially from floodplain woodland	✓ Carbon storage and sequestration	✓ Detoxification and purification	✓ Supports pollinators	✓ High value habitat (value varies with woodland type and condition)	✓ Surface and fluvial flood mitigation (especially floodplain woodland)	✓ Aesthetic/ sense of place; accessible nature
Lowland Heath	✓ Timber: woodland on heathland sites	✗	✓ Carbon storage and sequestration	✓ Detoxification and purification	✓ Supports pollinator species	✓ High value wildlife habitat	✓ Surface and fluvial flood mitigation (particularly headwaters)	✓ Aesthetic/ sense of place; accessible nature
Rivers, Streams & Aquifers	✓ Fish (non-commercial)	✓ Water quantity and flow regulation	✓ Temperature regulation	✓ Detoxification and purification of water	✗	✓ High value wildlife habitat	✓ Surface and fluvial flood mitigation	✓ Accessible nature; aesthetic/ sense of place
Wetland & Standing Water Bodies	✗	✓ Flow regulation and recharge	✓ Carbon storage and sequestration	✓ Detoxification and purification of water	✗	✓ Support biodiversity; bird breeding, wintering and feeding grounds	✓ Surface and fluvial flood mitigation	✓ Accessible nature; aesthetic/ sense of place
Urban Habitats	✓ With the exception of allotments and some private gardens	✓ SuDS and other habitats: provide flow regulation and recharge especially on aquifer	✓ Carbon storage and sequestration – although small area may make this negligible	✓ Detoxification and purification of water	✓ Important sources of pollinator habitat in urban areas	✓ Wildlife habitat: important refuges of habitat in urban areas	✓ SuDS and other habitats: Surface and fluvial flood mitigation	✓ Accessible nature; aesthetic/ sense of place; health and wellbeing



4.9 Pressures on nature in West Sussex

Nature across the UK is in trouble, with more than 50% of species in decline. Some causes of this are historic, some are current and ongoing while others are emerging and have impacts that are hard to predict. Changing the trajectory from decline to ‘nature’s recovery’ requires action to reduce these pressures but also to ensure habitats and species are more resilient in the face of change.

Many of the pressures on nature are complex ‘system’ problems that can only be tackled through collaboration across sectors, from government, policymakers and conservation organisations to community groups, farmers and land managers. Examples include climate change, air pollution, water pollution, loss of wildlife habitat and urbanisation. Despite their obvious impact on nature, tackling these is beyond the scope of a LNRS.

The strategies **can**, however, help to identify where and how habitats and species can be supported to become more resilient to the changes which come from these pressures. They can also identify where ‘nature-based solutions’ can be used as part of the toolkit for minimising impacts on the wider environment.

Long-term trends

Decline in biodiversity in the UK is related to a number of specific trends that have been ongoing for many decades:

- Loss of wildlife-rich habitat;
- Reduction in the size of areas of habitat, so that in many cases they are too small to support species or function ecologically;
- Greater fragmentation of wildlife-rich habitats – sites are separated across a landscape and not well connected, which provides barriers for species which need to move between areas of habitat for survival;
- Reduction in the quality, species composition and/or structure of habitats – making it less wildlife-rich and less resilient to further change;
- Direct loss of species and/or reduction in their abundance or distribution, via pests, disease, pollution, climate change, changes to habitats etc;
- Reduction in environmental quality (e.g. poor air, water or soil quality) which has knock-on effects on both habitats and species;
- Loss of natural processes and functions, which means that the potential of nature to deliver the range of wider benefits and services we rely on is reduced.



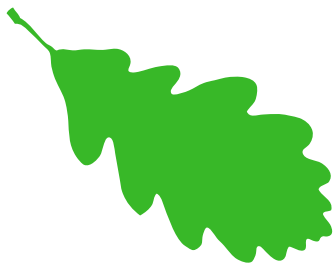
📷 Rural flooding © iStock.com/bunsview

The principles, priorities and measures set out in Parts 2 and 3 of this Statement of Biodiversity Priorities, directly respond to these sorts of impacts on nature and build on the actions and experiences of landowners, conservation organisations and other practitioners in addressing these trends in West Sussex over many years.

The trends above are a result of pressures which can be thought of as either ‘direct’ or ‘indirect’. Indirect pressures (such as our growing disconnection from nature and decrease in the value and importance of nature within society and key decision-making processes) are not dealt with here but must be part of a wider cross-sectoral approach to achieving nature’s recovery.

The direct pressures on nature in West Sussex fall broadly into eight categories, many of which are inter-related³⁸.

Figure 3. Direct pressures on nature in West Sussex



³⁸ These categories are taken from State of Nature Report for the UK (2019).

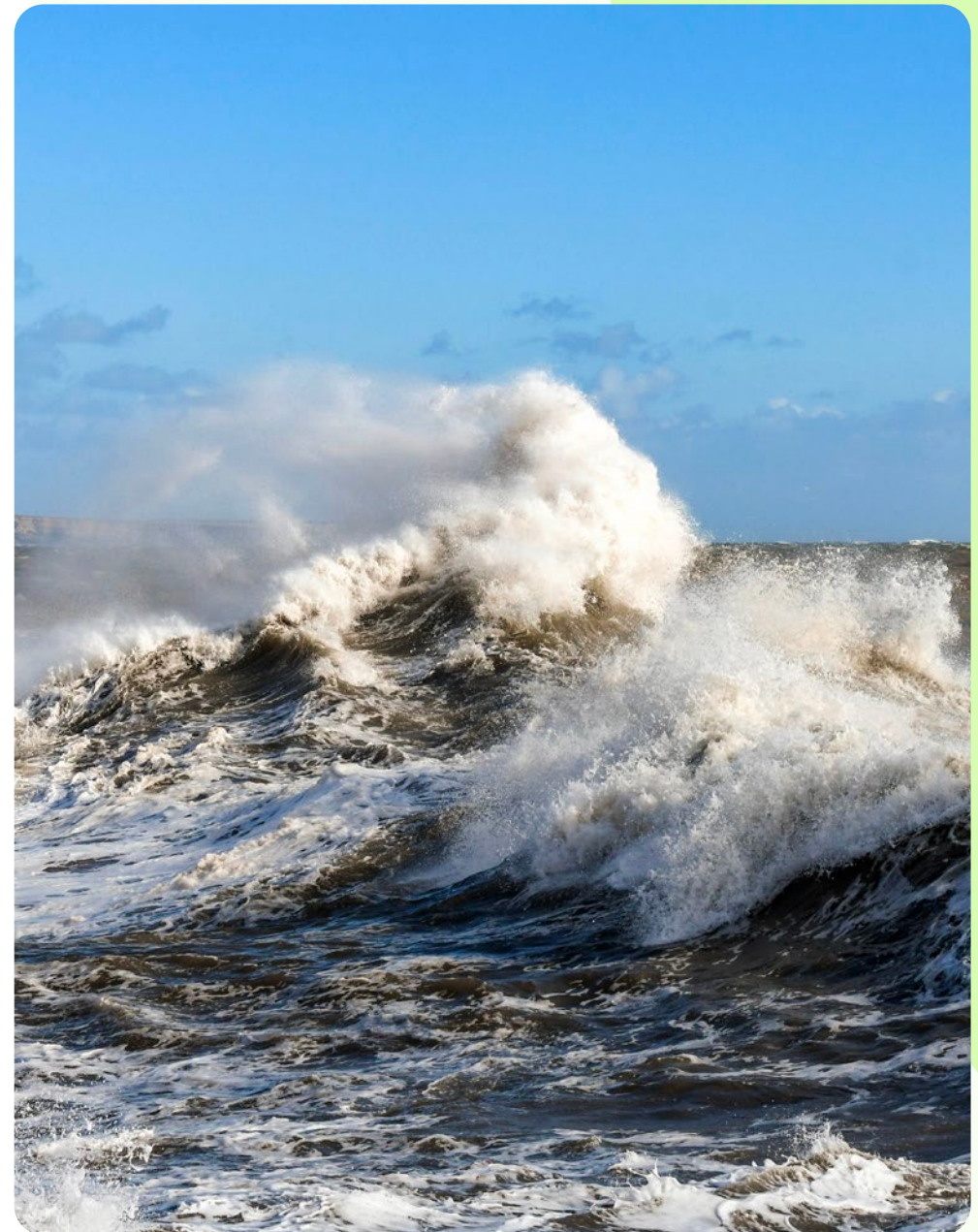


Climate Change

Human-driven climate change has had a significant impact on nature in the UK over the last 40 years and this is projected to continue for decades or even centuries to come.

The key climatic changes affecting nature now and into the future in West Sussex are **increasing temperatures, changing rainfall patterns and sea level rise**. The south-east of England is expected to see the greatest rise in summer temperatures in the UK. At the same time, summer rainfall is projected to decrease while winter rainfall is expected to increase, characterised by a higher frequency and intensity of storms. This will create an increased risk of both drought and flooding events. Sea levels are predicted to rise along with changes to tides and waves, and again this rise is expected to be greatest in the south of England.

These changes are already having a direct effect on species, affecting their abundance (populations decrease or increase depending on whether they can cope with the conditions) and distribution (species may be forced to move to more favourable conditions if they can). They also affect the timing of important seasonal events (for example, when birds lay eggs or plants flower) which can have a critical impact on populations of species and the complex inter-relationships between them that are vital for their survival.



Stormy seas © iStock.com/Ceri Breeze

Our habitats face a range of challenges from a changing climate

Specific impacts are related to habitat types and how resilient these are to factors such as precipitation and temperature.

For example, drier summers will result in significant reductions in water levels in our **rivers, chalk streams, wetlands, ponds and aquifers**. This will be compounded by abstraction of water for human use (existing and in the future), in our already ‘water stressed’ region. The result is greater risk of these habitats drying out with clear impacts for species and the range of other environmental benefits we receive from our freshwater environment (most notably our water supply). Higher temperatures across the year will drive increases in water temperature, reducing oxygen levels in these habitats and leading to greater concentrations of nutrients and pollutants and exacerbating poor water quality where this is already an issue.

Lowland heathland and species-rich grasslands will also be affected by changes in rainfall and temperature, with increased risk of wildfire and a change in species composition. Heathland, like wetland, will also be more likely to dry out in summer months.

Woodlands will be more likely to experience stress due to drought, with some tree species such as beech likely to be more vulnerable than others. Higher temperatures and drier summer conditions will mean that the choice of species for new woodland may have to change to ensure that new woodland can survive in more challenging conditions. More intense winter storms with higher winds are likely to cause increased damage to trees and woodlands in winter months. The changing climate is also increasing the risk to our woodland from pests and diseases, with ash dieback a current example of a pest which is radically impacting the species composition of our woodlands.



Sea defence work © iStock.com/FitchyImages

Along the coastline of West Sussex, sea level rise and increased frequency and intensity of storms is already leading to significant losses of **coastal habitats**. For these habitats to survive, they need to be able to expand inland, out of reach of the rising seas and coastal erosion. However, the coastline of West Sussex is characterised by extensive areas of hard infrastructure located very close to the shoreline (hard flood defences, roads, railways and urban areas). This results in ‘**coastal squeeze**’ leaving these coastal habitats with nowhere to go.

Managing and defending our coastline for the benefit of coastal habitats and wildlife as well as people will therefore be a significant challenge in the future. Where they are possible and feasible, some approaches to coastal defences such as ‘**managed realignment**’ can offer both – the space for the creation of more coastal habitats which themselves can help to buffer areas inland from storms and sea level rise. Harbours and tidal reaches of rivers will also remain of vital importance as key areas for expansion of threatened coastal habitats.

Intensive agricultural management

Around two thirds of land in West Sussex is farmed. Our most iconic and valued habitats, such as ancient woodland and species-rich grasslands, were shaped by ‘traditional’ agricultural management practices over centuries (typically low intensity stocking levels, rotational cropping patterns and low/no inputs of agricultural chemicals). Specialist farmland species such as arable weeds and farmland birds also co-evolved with these traditional practices and habitats and came to rely on them for their survival.



📷 Cattle grazing in the trees with their young. © Penny Green

Farmed landscape losses since WWII

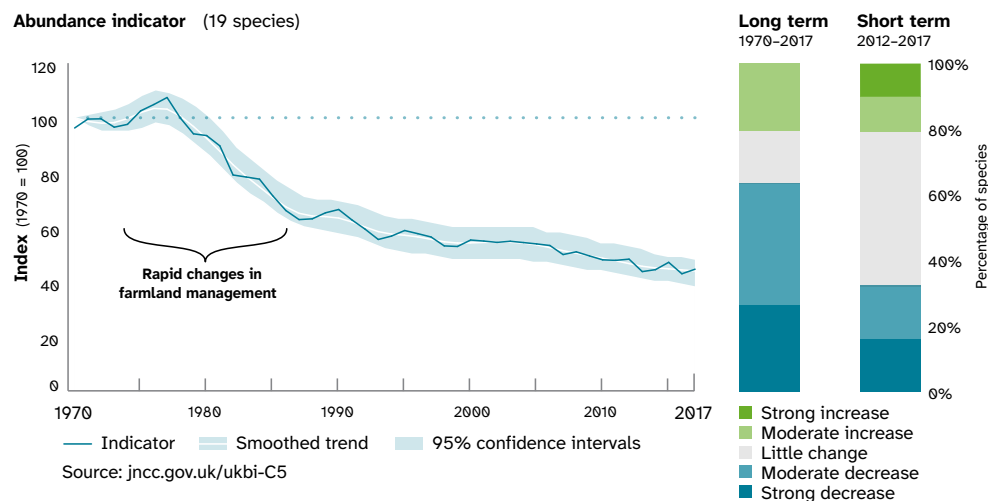
During the last century, changes in agricultural policy incentivised a drive towards greater productivity from the farming sector, which in turn led to more intensive practices and the over-use of chemicals. The result was less space for nature across our farmed land as hedgerows and field margins were removed (to increase field sizes) and wetlands were drained (to make way for grazing). Habitat loss was coupled with degradation of habitat condition as traditional practices such as hay making, hedge laying and low-intensity grazing practices were replaced by modern and more intensive farming methods. The over-use of pesticides led to a degradation in soil health and reduction of pollinator and insect populations while excess use of fertiliser dramatically increased the impact of agricultural run-off on our water courses and aquatic habitats.

The result was a dramatic loss of habitats and species from the farmed landscape across the UK. Most dramatic was the decline in farmland bird species – those dependent on the more traditional habitats and practices on farmland and unable to adapt as these habitats have been lost. These species, which include corn bunting, grey partridge, turtle dove and tree sparrow experienced declines of more than 80% between the 1970s and 2010s. In contrast, some of our more ‘generalist’ species such as jackdaw and woodpigeon proved to be more resistant to agricultural change and numbers have remained healthy.



Figure 4. UK Biodiversity Indicator: Trends in breeding farmland birds in the UK, 1970 to 2017

(source: State of Nature 2019, p20)



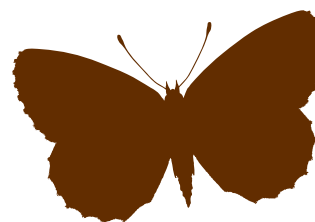
Looking ahead: a more nature-positive future

This historic impact of agriculture has been widely acknowledged as significant and mostly negative. However, over recent decades, agricultural policy has moved towards a much more sustainable and nature-positive approach. Specific funds for agri-environment schemes^o and a strong commitment from farmers and landowners to create or improve wildlife habitats has led to positive change. Policies and practices on reduced use of agri-chemicals have been adopted by the sector and approaches such as ‘regenerative farming’ have started to become more commonplace. Within protected landscapes in West Sussex, specific funding and resources have helped to support farmers adopt nature-friendly methods and many farmers within the LNRS area are working individually and together through ‘farmer clusters’ to create habitats and support species across the farmed landscape.

Support for our farmers and land managers

Progress, however, remains very dependent on government policy and funding and the wider economic pressures on farm businesses. Funding for environmental actions by farmers remains limited and uncertain, as government environmental land management schemes^o continue to change. Creating and managing habitats can be costly and although funding from schemes may help, a loss of local abattoirs and small local markets for products such as wood and venison make it more difficult for farmers to derive financial benefits from conservation management.

There also remains a need for well-coordinated advice and support that makes financial sense for farmers, to help them deliver the types of nature positive actions they want to. Meanwhile, issues such as diffuse agricultural pollution and run-off from farmed land continue to cause significant impacts on nature, and new forms of land use change (such as conversion of grasslands to vineyards and horse paddocks) may have impacts on wildlife that are not yet fully understood.



Changes to the freshwater environment

Population growth and development increases the demand for water. In West Sussex most of our water comes from groundwater and is abstracted from chalk aquifers. These aquifers also supply our springs, streams, wetlands and rivers. We are reliant on their ability to recharge in periods of rainfall, yet this function is impacted by development and inappropriate land use above the aquifer.

Water is also directly abstracted from some of our rivers. Many of the rivers and streams in West Sussex are experiencing pressures due to low flows and these are likely to become more severe as drier, hotter summers exacerbate the impacts of abstraction. Some of the most acute problems of low flows have occurred in our chalk rivers and streams and fragile wetlands systems.

Water quality, in our rivers and streams but also in our groundwater, is also under increasing pressure in West Sussex. The greatest threat to the water quality of our rivers and streams comes from wastewater (discharge of waste from sewage, agriculture or trade) and diffuse pollution from the land (nutrients, pesticides and herbicides finding their way into water courses through soil and water run-off from fields). Ground water quality is most at threat from poor nutrient management of rural and agricultural land. (See also 'pollution'.)

Freshwater habitats have also been directly impacted by land use and agricultural change in recent decades. Wetlands have been drained to support grazing and there has been a significant loss of ponds across Sussex, through neglect or direct human intervention. Those freshwater habitats that remain face increasing pressure due to agricultural land drainage, pollution, isolation and urban development.

Finally, many of our rivers and streams have been physically changed to enable the water environment to be used for a variety of purposes. These have introduced structures such as weirs, culverts and flood banks and have straightened meanders and altered the width of river channels. The result has been a reduction in the ability of our river systems to function naturally, both hydrologically and ecologically. However, innovative river restoration schemes are emerging in West Sussex as an approach to tackling this issue where landowners, flood risk authorities and local residents are supportive.

📷 Conducting water vole surveys on the River Ems, a flagship chalk Stream.
© Andrew Perris/Western Sussex Rivers Trust



Urbanisation

The demand for new housing and infrastructure has led to increasing urbanisation across the UK, particularly around existing centres of population. Urbanisation directly affects wildlife by changing land use and causing habitat loss. New settlements, roads and infrastructure also increase fragmentation of the landscape, creating barriers between habitats and species populations.

In West Sussex, urbanisation has typically led to the loss of habitats such as grassland, arable farmland, hedgerows, woodland and trees and caused notable fragmentation of valued priority habitats such as lowland heath and chalk grassland. In coastal areas it has also resulted in the loss or fragmentation of already pressured coastal habitats such as coastal vegetated shingle and saltmarsh³⁹. While the impacts on habitats are most obvious from large development or infrastructure projects, the cumulative habitat losses and fragmentation from small developments must not be underestimated and can gradually diminish and fragment important areas of habitat over time.

Within urban areas, increased light pollution, air and noise pollution and predation by domestic animals has a significant impact on wildlife. Other impacts include the creation of impermeable surfaces which cause damage to soil function and promote run-off. The result is increased surface water flooding and diffuse pollution of

water courses and groundwater. Water quality is also compromised by increased levels of wastewater from septic tanks and sewage discharges. A greater demand for water from a growing population will place greater strain on our water supply and thus on the water flows within our aquifers and rivers.

However, urbanisation need not always lead to biodiversity loss.

Changes in legislation now mean that many types of development must create 'biodiversity net gain' (BNG) – ensuring that they result in at least 10% more biodiversity than was present before the development. Schemes like District Licensing for great crested newts also create habitat for this protected species, paid for through development. Greenspaces, verges and gardens within urban areas provide important urban habitats for biodiversity but are often designed for human use rather than for wildlife. However, with a shift in emphasis they all hold potential for improvement for wildlife and can host habitat creation projects which will deliver multiple benefits for nature and people at the local scale.

It is worth noting that in West Sussex a large proportion of our LNRS area sits within our Protected Landscapes (South Downs National Park, High Weald National Landscape, Chichester Harbour). These areas have tighter controls on development which has the result of squeezing most new development into the areas beyond their boundaries. This is creating a distinct area of the LNRS that is expected to absorb the greatest impacts of urbanisation. This will have impacts on nature and the wider environment, making the role of the LNRS and BNG in driving nature's recovery in this area even more important.

³⁹ In 2019, Sussex Nature Partnership identified those habitats most at risk from further losses to development (natural capital at risk). See the Natural Capital Investment Strategy for Sussex for more information.



Invasive non-native species and pathogens

Invasive non-native species (INNS)^o are plants or animals that have established and spread outside their natural range. Whether introduced deliberately or by accident, they are often free from the selection pressures of their natural enemies and establish and spread rapidly. They outcompete our native flora and fauna for space, light, food and pollinators and can alter the composition and function of habitats and entire ecosystems. They may predate on native species and spread disease. In some cases, they play a direct role in the local extinction of species. Thus, they are one of the greatest threats to global biodiversity.

Over 3200 non-native species have been recorded in Great Britain and of these, approximately 2000 are established and reproducing in the wild. More than two hundred of these have had a documented negative ecological or human impact. In West Sussex, invasive non-native species are found across all our ecosystem types. Rivers, streams, ponds, wetlands and transitional waters are particularly affected, both by species which establish in the water or on the banks. Grassland, heathland and woodland are also affected. The species that pose the most risk are shown in Table 2.

Table 2. Invasive non-native species that pose the greatest risk in West Sussex

Invasive Species	Main habitat/species impacted
Grey squirrel	Red squirrel
Rhododendron (<i>Rhododendron ponticum</i>)	Woodland
Cherry laurel	
Oak processionary moth	
Himalayan balsam	Rivers and streams
American skunk cabbage	
Giant hogweed	
Floating pennywort	
Parrot's feather	
Water fern	
New Zealand pygmyweed	
Curly waterweed	
Canadian and Nuttall's waterweed	
Asian clam	
Signal crayfish	White-clawed crayfish
Chinese mitten crab	White-clawed crayfish, salmon, trout
American mink	Water vole
Cotoneaster	Grassland

Once established, INNS are very difficult to eradicate although it is possible to reduce their impact. In most cases, **control of their impact** is therefore the strategy adopted for dealing with INNS. Preventing the establishment in the first place is also vital and relies on good biosecurity⁹ and awareness raising. In West Sussex, eradication is an ambition limited to American mink, a species that was released into the countryside from fur farms in the 1950s and which has decimated Sussex water vole populations. Eradication is a feasible aim for this species and has already been achieved in areas of [eastern England](#).

Pathogens and diseases can also affect our native flora and fauna, with significant impacts on the organisms affected and to the wider ecosystems of which they are a part. High profile examples that have affected the woodlands of West Sussex include [Dutch elm disease](#) (*Ophiostoma novo-ulmi*) and [ash dieback](#) (*Hymenoscyphus fraxineus*). Dutch elm disease, a fungus spread by elm bark beetles, has had a particularly significant impact on elms in and around our coastal towns.

Ash dieback, another fungus, is devastating the population of European ash across the UK. Carried on the wind, this pathogen has had the greatest impact in the south-east of England. Killing trees from the inside, it creates safety issues for all local authorities as affected ash must be felled along roads and paths at significant cost. Other pathogens that are emerging in the woodlands of West Sussex include [oak processionary moth](#) and the [spruce bark beetle](#). These are being monitored carefully to provide more information on their spread, impact and implications for woodland owners.



📷 Himalayan Balsam © iStock.com/Jonathan Repp

Pollution

Pollutants threaten our biodiversity and have an impact on all habitats. They come in a diverse range of forms including but not limited to: plastic waste; chemicals in water, soil and air; noise and light from cities and transport; and nutrient enrichment of sensitive habitats.

Poor water quality

Poor water quality places significant pressure on the habitats and species within our freshwater, coastal and marine ecosystems and is being driven primarily by pollution. Pollution from agriculture, land use and development (including sewage discharges) is causing increased levels of sediment, nutrients (phosphates/nitrates) and other chemical pollutants (such as pesticides and veterinary chemicals) in our water courses, standing water bodies and aquifers. Climate change is also a significant part of this problem, with high intensity rainfall events in the winter months contributing to greater levels of run-off from the land reaching our water courses, and bringing with it larger volumes of sediment and pollutants. Decreased rainfall patterns in spring and summer months lead to lower water levels in rivers, streams and other water bodies, concentrating levels of pollutants.

High levels of nutrients in ponds, lakes, estuaries and harbours (nutrient enrichment) combine with higher water temperatures to encourage the growth of algae. This changes the chemical and oxygen composition of these environments (a process called eutrophication⁹) and further decreases water quality. Many of our most fragile freshwater, coastal and marine habitats and sites are at significant risk from eutrophication. More generally, most of the surface water, ground water and coastal parts of our catchments (called 'water bodies' under the Water Framework Directive) fail against indicators for water quality and none are in 'good ecological condition'.

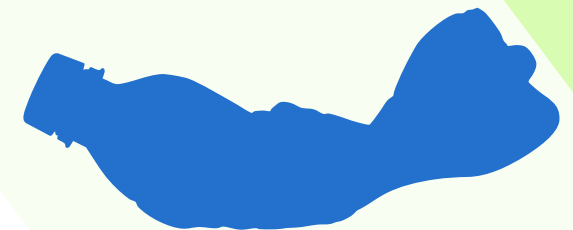
Light, noise and air pollution

Caused by development and infrastructure, light pollution impacts moths, bats and other nocturnal species, affecting breeding and feeding patterns. It is thought to be having a particularly detrimental impact on the population of glow worms found in West Sussex where very few breeding sites of these rare insects remain. Noise pollution on land and at sea affects the survival of birds and animals by reducing their ability to navigate, find food, mate, and avoid predators.

Air pollution from vehicle emissions can lead to soil acidification⁹ and eutrophication; nitrogen deposition is a particular issue for the important heathland.

Plastics

Plastic pollution is found in all types of ecosystems and includes microplastics and microbeads which are too small to be filtered out by water treatment works. Plastic pollution in an area causes habitats to degrade, disrupting their natural balance and function. It can also cause starvation, injury and death to wildlife who ingest it or get trapped or tangled in it. This is a particular concern in our coastal and marine habitats.



Woodland management

Nature within woodlands throughout the UK is under pressure from a lack of management, overgrazing by deer, increasing levels of recreational disturbance, and nitrogen pollution. The prevalence of tree disease is also of increasing concern (See Invasive Non-Native Species and Pathogens above).

Ancient woodland, which makes up only 2.4% of total land cover in the UK is of great importance for biodiversity, supporting a range of specialist species. Despite its classification as an ‘irreplaceable habitat’⁴⁰, it is at particular risk from these pressures and faces ongoing risk of loss to development and infrastructure. Due to the poor ecological condition of much of this woodland, specialist woodland bird and butterfly species are also in decline across the country, despite an overall increase in woodland cover. This signals the need to prioritise the quality of these ancient woodlands as part of any nature-recovery effort. West Sussex contain high areas of ancient woodland relative to other counties in England and therefore tackling these pressures and bringing this habitat type back into healthy ecological condition is noted as a particular priority for woodland within this LNRS area.



Deer
© iStock.com/JMrocek

Deer pressure

The presence of very large numbers of deer in West Sussex is having a significant impact on the health of our habitats and is one of the most pressing and significant impacts on our woodlands. Fallow deer have been in the UK for many centuries and are now considered ‘naturalised’ but they have increased to unsustainable levels across the south-east of England. A more recent introduction, the muntjac deer, is also expanding in numbers at an alarming rate. These deer overgraze woodland, removing plant life growing beneath the canopy and preventing woods from naturally regenerating. As they destroy new plants, they also have a significant impact on new woodlands or hedgerows, making their establishment almost impossible in some areas. If deer numbers are not tackled, they will have a very detrimental impact on our woodlands’ future health and resilience, with knock on impacts on the specialist woodland species already in decline. Grey squirrels also impact on the ability of woodland to thrive and regenerate and their management is a specific priority in some parts of the LNRS for this reason.

⁴⁰ Irreplaceable habitat is a habitat that is very difficult (or takes a long time) to restore, create or replace once it has been destroyed. <https://www.gov.uk/guidance/irreplaceable-habitats#what-irreplaceable-habitat-is>

The decline of traditional woodland management practices

Traditionally, woodland in West Sussex would have been managed through coppicing, grazing and systematic rotation of cutting and felling. However, these practices have declined significantly as demand for wood for fuel, crafts, and other traditional woodland products has waned. As a result, many woodlands have been left unmanaged for many years or have been managed for timber. This has led to structural changes within our woods, a lack of trees at different stages of growth, over-shading and a general lack of opportunities for wildlife to thrive⁴¹. Sensitively managed woodland supports much more biodiversity than unmanaged woodland. The diversity of height, structure and open spaces that management creates provide a mosaic of habitats capable of supporting both light and shade tolerant species⁴².

Traditional orchards, more often associated with Kent are also found across West Sussex but particularly in areas of the High Weald. Countrywide, there has been significant loss of the more biodiversity-rich traditional orchards since the 1950s (90%) due to lack of management and a change in demand for their products⁴³.



📷 Coppiced woodland
© iStock.com/Chris Page

“The State of Nature Report 2018 highlights mixed, but predominantly negative, long-term trends in woodland including: that 53% of woodland species have declined and 47% have increased; a 24% long-term decline in the index of change in the abundance and occupancy of woodland species; a 20% decline in the UK woodland bird indicator since 1970; and that 11% of woodland species are threatened with extinction from Great Britain”

(Woodland Trust, 2018⁴⁴).

⁴¹ <https://www.wildlifetrusts.org/habitats/woodland>

⁴² <https://highweald.org/document-library/guidance/woodland-1/high-weald-land-management-guidance-woodlands/?layout=default>

⁴³ <https://highweald.org/document-library/guidance/orchards/high-weald-land-management-guidance-orchards/?layout=default>

⁴⁴ <https://www.woodlandtrust.org.uk/media/1704/current-state-of-ancient-woodland-restoration.pdf>

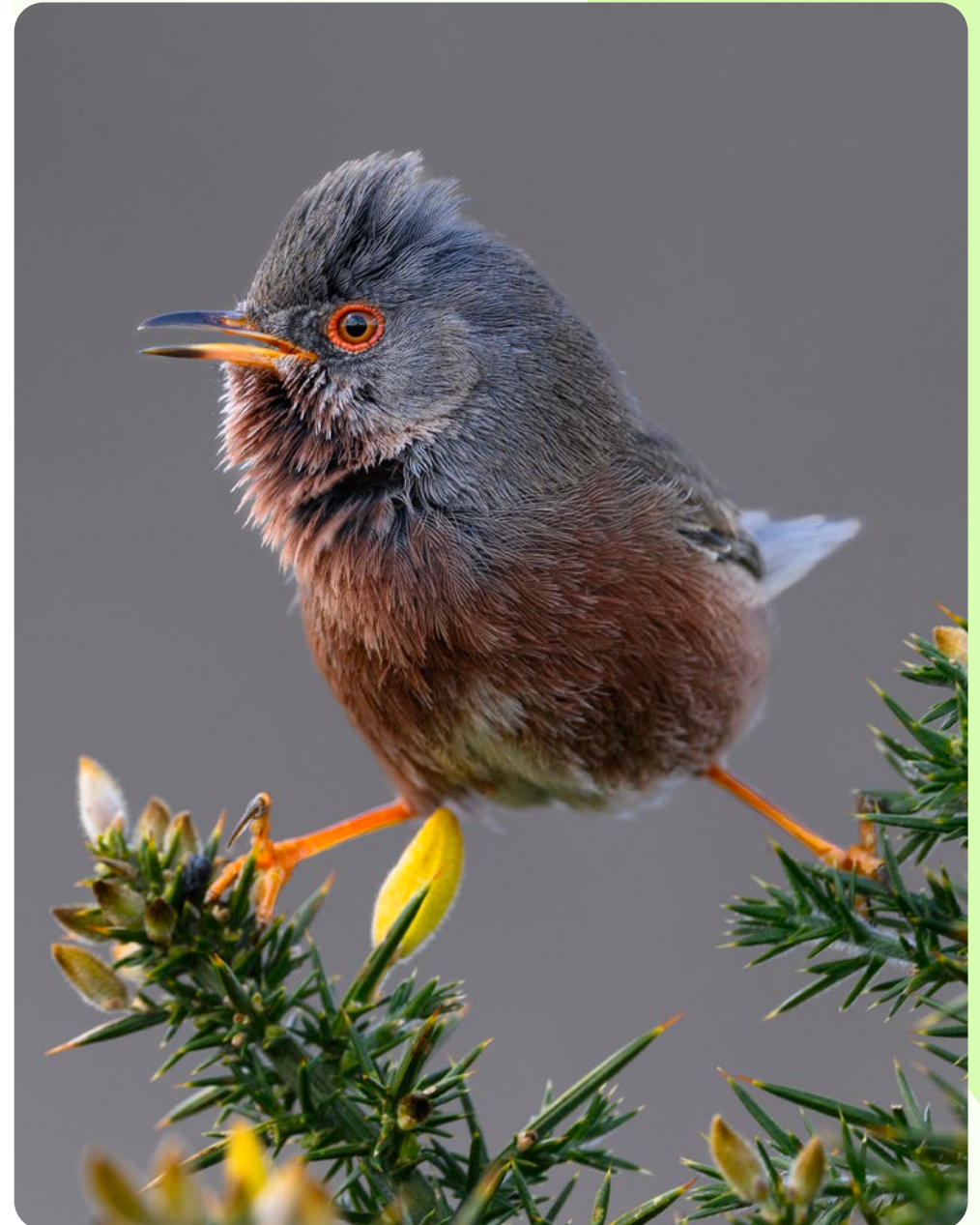
Disturbance

Our natural sites are visited by huge numbers of residents and tourists each year. However, in some places, recreational access is having a detrimental impact on nature. Types of disturbance include trampling, erosion, litter, noise and dogs off leads (which have a particularly negative impact on ground-nesting birds). Sites at the edges of urban areas and those with bigger tourist numbers face particularly high levels of disturbance.

While the impact of disturbance depends on how vulnerable the habitats and species are at a particular site, it can be reduced through actions to manage access and by increasing visitor awareness and understanding.

More information on all of these pressures and how they impact habitats and species nationally across the UK can be found in the UK State of Nature Reports for [2019](#) and [2023](#).

📷 Ground nesting birds like Dartford warblers are easily disturbed by dogs off leads.
© iStock.com/Ian Newell



Section 5.

What is
happening
already?

📷 Youth Rangers at Gatwick Greenspace
Partnership carrying out heathland maintenance.
© Ros Bassford/Sussex Wildlife Trust



SussexNatureRecovery.org.uk



5.1 Landscape-scale initiatives for nature

Though there are many pressures facing our natural world, there is much to be hopeful about in West Sussex.

Delivering nature's recovery at scale is a **long-term and complex undertaking, requiring** collaboration and shared goals to mobilise landowners, policy makers, environmental experts and community groups to work together. Fortunately, several established and emerging initiatives are enabling just that in our LNRS area, and crucially they already have momentum, projects and resources in place.

The following are a few examples of the many projects and partnerships in West Sussex.

As Protected Landscapes, the [South Downs National Park](#), [Chichester Harbour National Landscape](#) and [High Weald National Landscape](#) are home to some of our most iconic habitats and species. They are also where over 200,000 people live and work. To achieve their ambitious environmental targets (the South Downs National Park for example, aims to increase land managed for nature from 25% to 33% by 2030) they provide leadership, coordinate large scale habitat improvement projects, offer support, advice and funding to landowners, and educate and engage local people.

[Knepp Estate](#) is a trailblazing 1,400 hectare project which has transformed failing farmland into a site of abundant wildlife, including rare nightingales, peregrine falcons and purple emperor butterflies, while becoming a model and champion for its rewilding approach.

📷 Surveying small fish in Chichester Harbour.
©Felix Reitze



📷 Deer roaming at Knepp Castle Estate. © iStock.com/Jude Lavelle

Two exciting recent initiatives include [Weald to Waves](#), whose compelling vision of establishing a 100-mile nature recovery corridor across Sussex is galvanising farmers, organisations and residents to pledge their land, and [Sussex Bay](#), which aims to unlock funding for marine and coastal recovery through ‘radical collaboration’.

Other initiatives are focused on specific habitats within our LNRS area and encouraging local participation in their recovery. [Changing Chalk](#)’s mission is to restore the biodiversity of our precious chalk grassland, and inspire connection between the nature, people and heritage of the Downs. The [Lost Woods of the Low Weald and Downs](#) project seeks to restore, expand and reconnect forgotten ancient forests and bring together local people to help care for them. [Adur River Recovery](#) unites 27 landowners who, together with partners, are re-naturalising the river’s channels and floodplain, reviving wetlands and wildlife across the catchment, and inviting local communities to help forge a new future for the river.

Also working to improve our water environments, the [Arun and Western Streams Catchment Partnership](#) and [Adur and Ouse Catchment Partnership](#) bring a wide range of stakeholders together to improve biodiversity, reduce flood risk and increase river health.

Innovative collaboration in West Sussex also takes the form of farmer clusters such as [Arun to Adur Farmers Group](#) and [Manhood Farmers’ Cluster Group](#), as well as the Three Harbours Partnership, that see land managers working together to achieve broader environmental aims over their collectively larger areas. These can include improving soil health or supporting the return of farmland birds like grey partridge and turtle doves. Nature-friendly land management at large estates such as [Stroodelande](#), [Barlavington](#), [Wiston](#) and others have made these demonstrator sites for how to restore lost habitats, revive traditional practices and advocate for a more sustainable and biodiverse future.



📷 An event for the Lost Woods of the Low Weald and Downs project. © James Ratchford/WTML



📷 Conducting Riverfly Surveys on the River Stour, using river invertebrates to understand water quality and river health.

© Sam Moore, Western Sussex Rivers Trust

Larger landowners in West Sussex additionally include conservation charities (such as Sussex Wildlife Trust, The Woodland Trust, RSPB, WWT and National Trust) who manage nearly 7,500ha for nature between them, including some of our most loved nature reserves. Local Authorities also collectively own and manage land including our parks and other green spaces, and are working to improve these areas for wildlife and people. [Wilder Horsham District](#) – a partnership between Horsham District Council and Sussex Wildlife Trust provides on the ground advice to communities and landowners to create a Nature Recovery Network across the District. Both Horsham District Council and Adur & Worthing Councils have purchased land for the purpose of nature recovery.

The [Sussex Nature Partnership](#) provides strategic leadership to the sector including a lead role in the production of this LNRS, and convenes over 30 organisations in service of its aim to ‘protect and expand our natural capital and everything it gives us’.

Finally, a significant part of our LNRS area is covered by the designated UNESCO [Living Coast Biosphere Reserve](#)⁹. Recognising that our coast and downs are also home to thriving urban hubs, this partnership supports education and awareness-raising around the role of nature in our local economy, connecting conservation and sustainable development.

📷 Discussing the Sussex Bay vision of a thriving seascape in Jan 2025 – Kelly Smith, Black Tri Tribe, Councillor Andrew Harvey, Paul Brewer, Adur & Worthing Councils and Dean Spears, Sussex Bay.
© Sussex Bay

Achieving our nature recovery ambitions requires **more than aspiration** – it demands collaboration, momentum, **well-designed projects** and **adequate resources**. Without these, our nature recovery efforts risk being fragmented, short-lived, or misaligned with local and national priorities. Our **existing landscape-scale initiatives** offer the most effective foundation for delivering future nature recovery objectives because they already operate at the right scale, have strong partnerships, align with national strategy, and command local trust. Using them means we can move faster, go further, and do better – for nature and for people.

📷 Below: Volunteer Wilder Horsham District hedge laying Mayes Park
© Sam Roberts/Sussex Wildlife Trust



5.2 Our building blocks for large-scale nature recovery

Protected landscapes

Iconic havens for wildlife, *South Downs National Park*, *Chichester Harbour National Landscape* and *High Weald National Landscape* have legal frameworks for conservation and restoration, delivered via projects and partnerships, and contribute to national climate and biodiversity targets.

Catchment partnerships

Arun and Western Streams Catchment Partnership and *Adur & Ouse Catchment Partnership* work to improve water quality and quantity, enhance biodiversity and reduce flood risk in our river catchments.

Estates and farmer led initiatives

Landowners and managers on their own land or collaboratively in *clusters* are working to restore and create habitat, support species and improve soil health and water quality.

Living Coast UNESCO Biosphere

The *Living Coast* is a designated UNESCO Biosphere Region, working in partnership from Worthing to Seaford, connecting people and nature from the South Downs to the sea. It promotes conservation, sustainable development and environmental awareness.

Habitat creation and improvement projects

Lost Woods of the Low Weald and Downs, *Changing Chalk* and *Adur River Recovery* seek to bring back and enlarge key habitats and restore connectivity. *Wilder Horsham* works on the ground with landowners to restore ecological networks and systems.

Nature-based solution focused initiatives for land and water

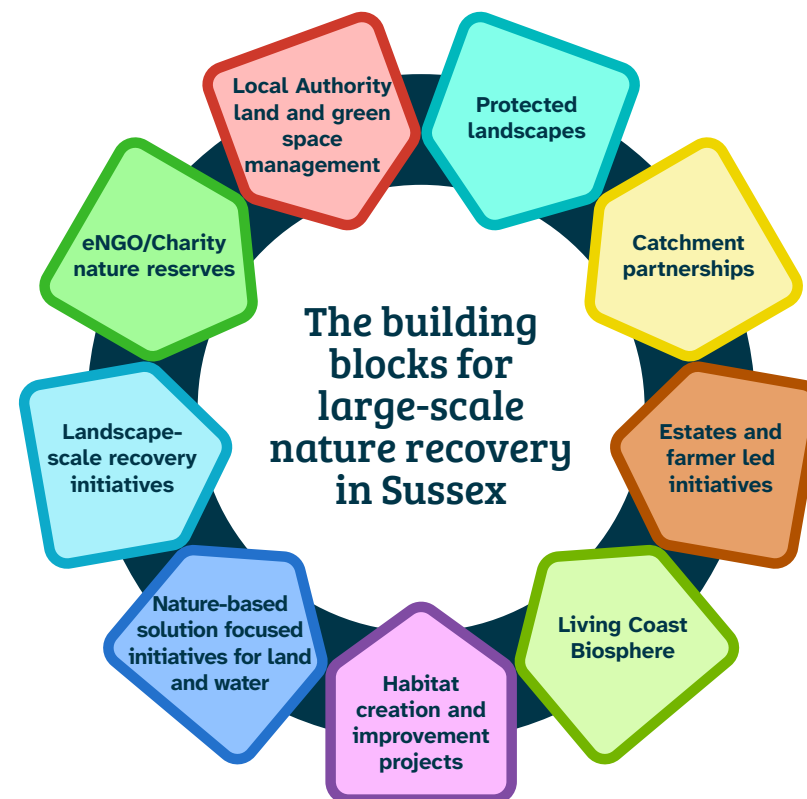
The *CHaPRoN* project seeks to protect, enhance, drive recovery and build in resilience of the natural environment within Chichester Harbour National Landscape. *Sussex Bay* uses “radical collaboration” to unlock funding for marine and coastal recovery.

Landscape-scale recovery initiatives

Weald to Waves aims to establish a 100-mile nature recovery corridor across Sussex with pledges from farmers, community groups, schools, organisations and residents. *Big Chalk* enables its vision of creating thriving chalk and limestone landscapes across southern England by connecting, funding and supporting local activities.

eNGO/Charity nature reserves

Sussex Wildlife Trust, *Woodland Trust*, *RSPB*, *WWT*, *National Trust* and others, actively manage our nature reserves to enhance biodiversity and ecological health.



Local Authority land and green space management

Collectively managing thousands of hectares of land including parks, public rights of way and coastal areas our Local Authorities can help to boost biodiversity and create green networks

5.3 Community action

At the local level, hundreds of community groups, volunteers and smaller organisations are undertaking vital work to improve and enrich our natural environment.

West Sussex has a vibrant conservation community with a myriad of different groups focused on protecting and conserving local wildlife and habitats.

‘Friends of’ groups maintain our parks and other green spaces while species-specific groups monitor and campaign for species such as bats or swifts. Area-based community groups of all sizes maintain ponds, plant wildflower strips, undertake ecological surveys or organise beach cleans.

Coordinating these smaller groups are networks of highly active and organised hubs, [Transition Towns](#)^o and alliances who support a diverse programme of activities from conservation and education to sustainability fairs and climate cafes. Parish and town councils can also be key enablers of grassroots action, delivering local biodiversity projects and designating areas for nature in their neighbourhood plans.

In 2021, the [Friends of Chichester Harbour](#) secured funding for a project to increase seabird breeding habitat for terns in Chichester Harbour. The [Shoreham District Ornithological Society’s](#) robust monitoring of the birds and habitats near the Estuary has contributed to multiple nature recovery projects. [Friends of the Adur SSSI](#) organise paddle and walking safaris to educate visitors on the importance and fragility of this area for rare migratory birds. [Greener Steyning](#) is passionate about protecting the biodiversity on its own

doorstep. It is working towards its 2030 vision with multiple projects which include creating new habitat for pollinators on the verges around three parishes.

The [Manhood Wildlife and Heritage Group](#) has planted miles of **hedges, restored wetlands, created pollinator highways and has published a Water Vole Biodiversity Action Plan**. The [Sussex Biodiversity Record Centre](#) supports local citizen scientists and has collected thousands of biological records, informing local **planning and conservation efforts** including this Local Nature Recovery Strategy.

These examples and those overleaf, illustrate how hyper-local action in West Sussex has delivered **tangible gains for wildlife, restored habitats, engaged thousands of residents, and shaped local policy**. This work shows that **grassroots action is central to nature’s recovery** especially when supported by councils, landowners, and partnerships.



📷 Transition Town Worthing.
Sorting out the pond area.
© Pauline Cory

And residents?

Outside of volunteering, many West Sussex residents are finding new ways to engage with our natural environment. In recent years, the number of sea swimming groups has exploded and these are now present in all our coastal towns, often becoming champions for the marine environment in the process and acting as eyes on the ground for pollution events.

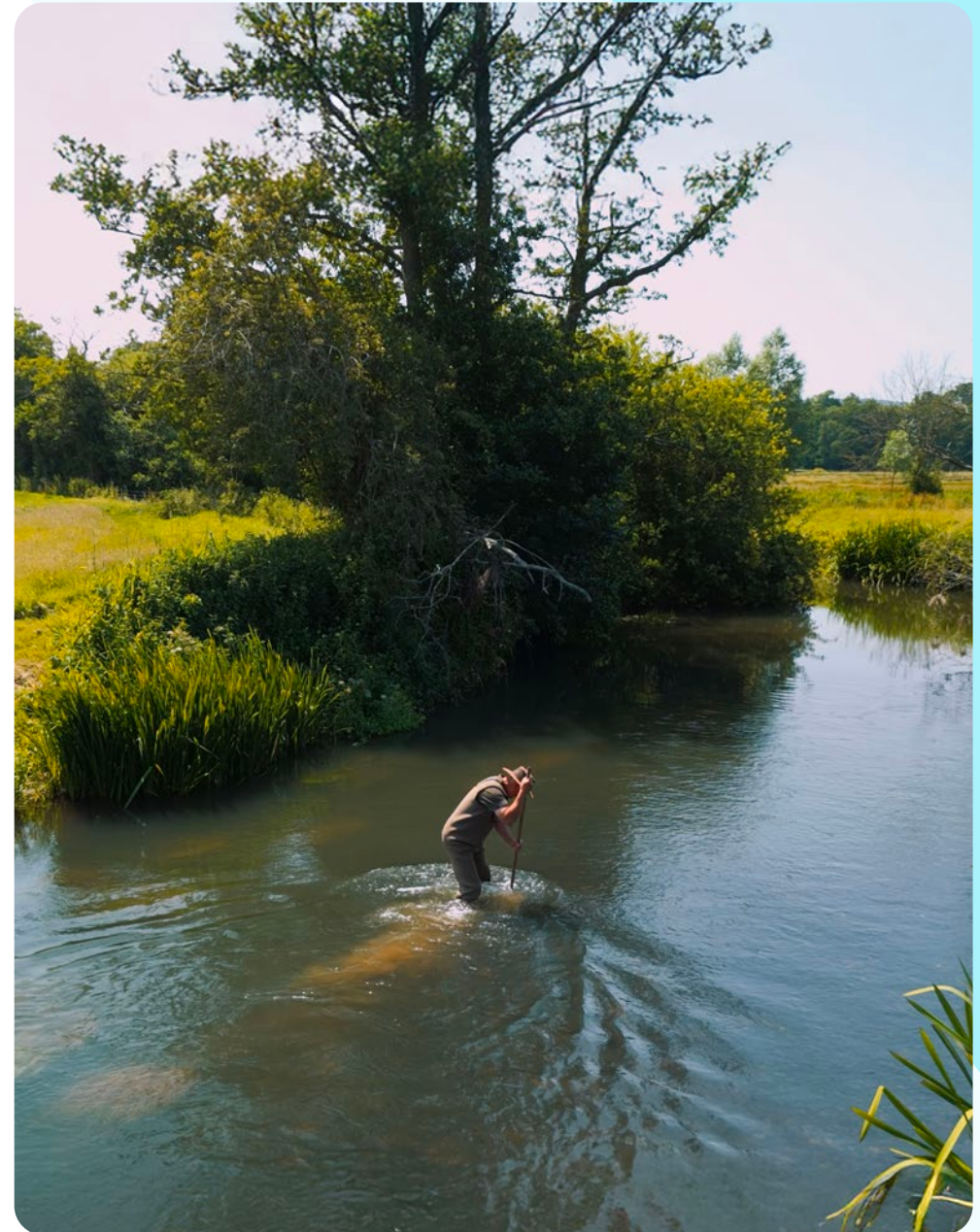
Walking and hiking have also increased in popularity, especially with young people, with recognition of their health and wellbeing benefits and of our world-class landscapes. Rewilding courses, forest bathing, mindfulness retreats and forest schools are offered at many of our nature-rich places. Meanwhile nature-friendly gardening and practices such as [No Mow May](#)⁹ have been embraced by local people, part of a wider cultural shift toward supporting nature in everyday life.

Whilst there is a lot we need to do in West Sussex to restore nature, we can be confident that we are not starting from a blank canvas.



 **Conducting Riverfly Surveys on the Western Rother, using river invertebrates to understand water quality and river health.**

© Sam Moore, Western Sussex Rivers Trust



5.4 Local achievements

A few of the fantastic local nature projects delivered by community groups and councils across West Sussex. Read about many more in [our community group survey results](#).

Eastbrook Community Gardeners – plant trees and flowers in Fishersgate and Southwick. Have supplied and laid over £1,250 of wildflower turf in St Aubyn's Crescent.

Steinying Downland Scheme – in partnership with South Downs National Park Authority and Kew Wakehurst, this community group supported the reintroduction of the Duke of Burgundy by creating new habitat, planting and growing food plants and monitoring this butterfly species.



📷 The Woodland Flora and Fauna Group undertake breeding surveys and identify a young barn owl. © Michael Setford

Wild About Warnham – manage 20 acres of former farmland since 2008 to provide optimum habitat for butterflies and other wildlife. 33 butterfly species have now been recorded. Birds and other taxa have colonised the site which is also a valuable educational resource.

Burgess Hill Swift Supporters – have installed nesting boxes and organise swift walks to monitor and educate others about this species.

Friends of Heene Cemetery – undertook ecological surveys of the cemetery and its unimproved meadowland, identifying 723 species and establishing the rich biodiversity of this site in central Worthing. The group have also installed educational posters.

The Woodland, Flora & Fauna Group – erected scores of Barn owl boxes in locations around southern Mid Sussex to provide roosting and breeding opportunities around areas of suitable hunting terrain.

The Wellderness CIC – planted 1500 native trees to increase biodiversity on Wild Heart Hill in Findon. Won the Queens Tree award.

Cortis Avenue Wildlife Garden – cleared a fly-tipped playing field 15 years ago with assistance from local environmental groups. Now a series of habitats for wildlife – woodland, orchard, hedgerows, wildflowers, grassland and ponds – providing a haven for butterflies, bees, insects and birds.



📷 Steinying Downland Conservation Volunteers putting in a new water trough. © Wylies Field

Cuckfield Parish Council – planted two orchards and an 'edible' hedge on a parish council site with an interpretation board to educate visitors. Their Biodiversity Action Plan includes swift nest boxes, a camera trapping project to estimate the local hedgehog population and pilot studies on managing verges for wildflowers.

Manhood Wildlife and Heritage Group – delivering multiple projects for nature across the Manhood Peninsular including fixing and linking its wetlands through their FLOW project, working to safeguard the local water vole population and devising pollinator highways.

Tottington Woodlanders – volunteers use traditional coppicing practices on a weekly basis to regenerate an ancient woodland near Henfield. Now in its third cycle of coppicing, the woodland is thriving.

Greener Amberley/Amberley Parish Council – have laid hedges, amended the mowing regime and created wildflower meadows at Millennium Green, increasing biodiversity at the site.

Ferring Conservation Group – maintain Warren Pond in partnership with Ferring Parish Council to support species including Great Crested Newts. This involves cutting back encroaching trees, building a hibernaculum, planting wildflowers, trees and other plants, installing nest boxes and putting up an interpretation board.

Henfield Parish Council – created the Henfield Community Orchard in February 2022 by planting trees with local people of all ages. The site is still maintained by volunteers and scouts. A few years on, more diverse nature is coming back and it has become a loved, off-the-beaten-track, place in the village.

CPRE Sussex – planting 2km of new native hedgerow on a farm near Sidlesham as part of their Hedgerow Heroes project in partnership with the Manhood Wildlife and Heritage Group.

Gatwick Greenspace Partnership – provide wildlife and conservation volunteering, advice, events and education. Since 1994 they have connected a diverse range of people from local communities with local greenspaces across 200sq km between Horsham, Crawley, Gatwick, Horley & Reigate.



📷 Planting new hedgerows © CPRE Sussex

Section 6.

Opportunities for nature's recovery in this LNRS

📷 Black darter
© Ben Rainbow



Over the past few years, various organisations have produced statements, plans and strategies that between them have identified a range of **opportunities** for nature's recovery in West Sussex. These include:

- National Character Area statements (Natural England);
- Management Plans for protected landscapes (South Downs National Park, Chichester Harbour National Landscape, High Weald National Landscape);
- Local Plans and their supporting documents (such as Green Infrastructure Strategies);
- In addition a suite of [BOAs](#) (Biodiversity Opportunity Areas^o) exist to identify where specific habitats could be expanded or enhanced.

These opportunities play an important role in linking key actions to specific places where they are most needed or will make the biggest difference. They reflect a general consensus on high-level spatial priorities for nature's recovery for the LNRS area and are important context for the mapping of measures within the LNRS (Part 2 Section 5).



Key nature recovery opportunities within the LNRS area

(as set out in National Character Area statements and other existing plans and strategies)

Wealden Greensand

Heathland and acid grasslands

Restore, enhance and connect these habitats in parklands, commons and golf courses on the greensand ridge.

River Arun and the Western Rother

Create and enhance habitats, particularly where this can provide benefits for water quality and biodiversity. Work with farmers and other stakeholders to mitigate upstream water quality pressures.

Woodland

Restore and enhance the sessile oak woodlands on acid, sandy soils of West Sussex.

Low Weald

Natural Flood Management

Deliver natural flood management^o techniques in focus areas across West Sussex upstream of settlements.

Wood pasture and parkland

Restore and enhance wood pasture and parkland habitats. Example sites: Ebernoe Common, Knepp Estate and others throughout West Sussex

Woodland habitats

Significantly enhance the network of ancient woodland, gill woodland, shaws, hedgerows and trees – through woodland management and small-scale woodland creation. New woodland creation can help to link the National Park to the High Weald and provide a setting for recreation.

Wetland landscapes of the Arun and Adur

Enhance and create wet woodland and wet pasture to expand and connect habitats and support water flows.

Farmed Landscape

Expand and connect semi-natural habitats; expand and enhance areas of unimproved grassland and meadows; restore degraded neutral grassland.

Urban areas

Urban greenspaces across the LNRS area

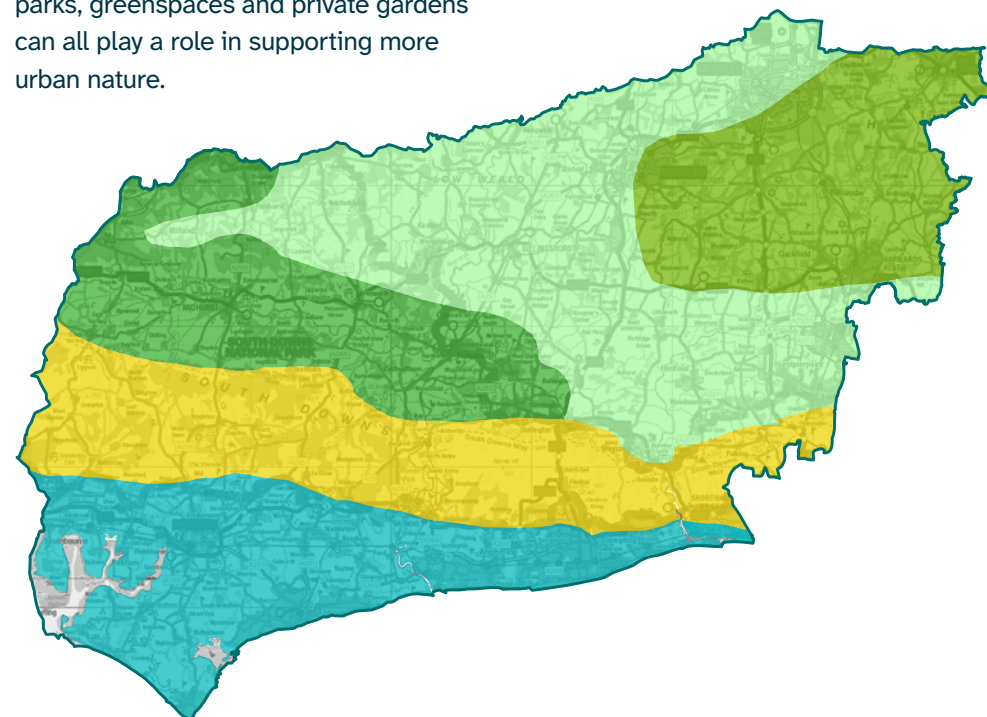
Opportunities exist across all urban areas in West Sussex to enhance existing greenspaces for nature and to create new opportunities for access to nature. Action should be focused in areas of low current provision of greenspace and guided by Natural England's Green Infrastructure Standards. Existing public parks, greenspaces and private gardens can all play a role in supporting more urban nature.

South coast towns

Enhance and create blue-green linkages within and between coastal urban areas and to the countryside beyond.

Key

-  West Sussex Boundary
-  High Weald
-  Low Weald
-  Wealden Grassland
-  South Coast Plain
-  South Downs



South Coast Plain

Chichester Harbour and Pagham Harbour

Restore and expand habitats to support biodiversity, aid flood alleviation and improve resilience to climate change. Seek opportunities to create inland wetlands to create a habitat network between Medmerry and Chichester Harbour.

Manhood Peninsula

Enhance ditches and wetlands across the peninsula. Explore future options for managed realignment projects for flood risk management and habitat creation. Key area for saltmarsh creation between Medmerry and Pagham Harbour. Manage farmland to support habitat connectivity across the peninsula.

Chichester District

Create strategic corridors to ensure connectivity between Chichester Harbour National Landscape and South Downs National Park.

Chalk Stream floodplains

Expand areas of semi-natural habitat in chalk stream floodplains with particular emphasis on the more pressurized streams which run south from the dip slope of the South Downs such as the River Ems.

Floodplains of the River Arun and River Adur

Reconnect rivers to floodplains, expand and re-link wetland habitats to increase flood storage capacity, improve water quality and provide wildlife corridors. Key project: Adur River Recovery.

Woodland and hedgerows

Create a strong network of woodlands and hedgerows to form green corridors within the gaps between coastal towns.

High Weald

Routeways and road verges

Protect and enhance the ecological function of these historical linear corridors.

River Ouse

Enhance the natural function, quality and connectivity of the River Ouse, and the streams, standing water bodies and wetlands in this part of its catchment.

Woodlands and Grasslands of the High Weald

Restore and enhance the ancient woodland and species-rich grasslands, expanding and connecting these where this supports the historic field pattern of the area.

South Downs

Farmed landscape

Create additional habitat to support farmland birds and arable plants – (particularly in the cereal dominated dip slope). Expand and connect semi-natural habitats. Create and enhance habitats on farmed land to support biodiversity and the function of the aquifer.

Western Downs – fields and slopes

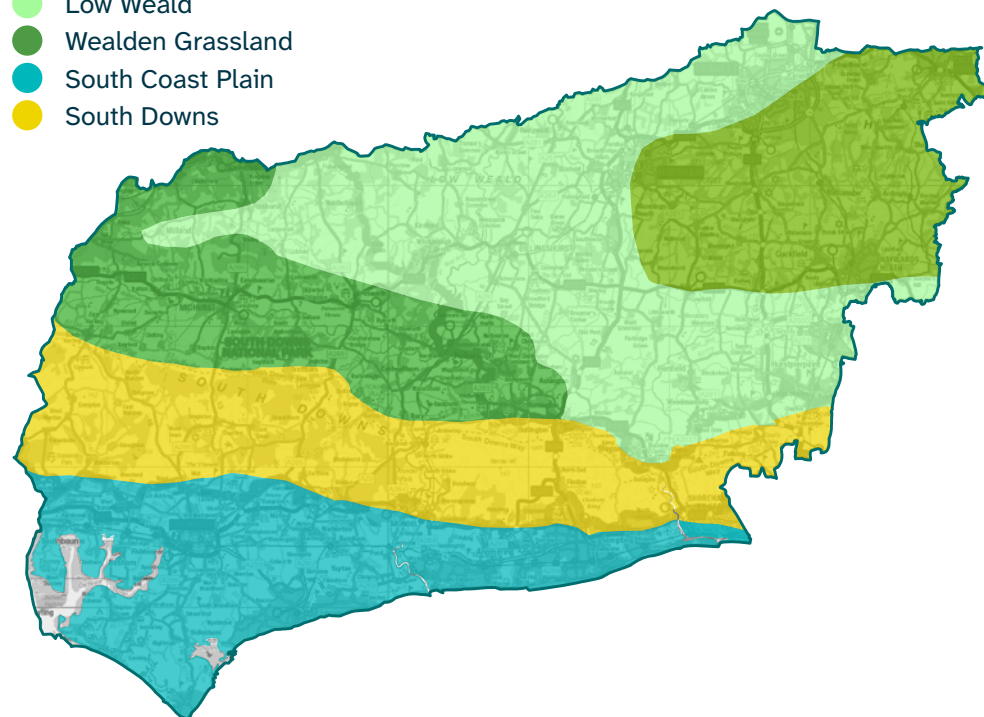
Restore hedgerows using historic hedgerow boundaries, particularly in locations where this will help to impede cross-land flows, encourage water infiltration and improve water quality. Target the expansion of woodlands on steeper slopes to reduce soil erosion.

Chalk grassland

Restore, expand and re-link chalk grassland habitats along the length of the chalk spine, scarp and dip slopes and dry valleys.

Key

-  West Sussex Boundary
-  High Weald
-  Low Weald
-  Wealden Grassland
-  South Coast Plain
-  South Downs



Section 7.

Looking ahead
to Parts 2 and 3
of this Strategy



📷 Small blue butterfly
© Ben Rainbow

West Sussex Local Nature Strategy: Parts 2 and 3

This document provides a description of the geology and habitats in our LNRS area, the pressures impacting nature, a snapshot of local concerns and some of the organisations and groups already working for nature's recovery in West Sussex. It therefore serves as context to the recommendations made later in this strategy.

Please see Part 2 of this Statement of Biodiversity Priorities to read the principles guiding our approach, our priorities for nature's recovery and the measures (actions) that can bring them about. Maps contained in this section show where habitat measures are best located across the LNRS area and how, when combined together provide a view of the **Areas that Could become of Importance to Biodiversity**. Part 2 also provides guidance on how to use this strategy if you are a community group, resident, environmental organisation, local authority or business. Part 3 lists our Priority Species and the measures needed to support their recovery.



LNRS Glossary

Abundance and diversity (of species)

In simple terms, species abundance refers to the number of individuals of a species in a given area. Species diversity refers to the number of different species found in an area. For example, a field of only one type of flower may have high abundance but low diversity, whereas a forest with many different kinds of plants and animals showcases both high abundance and high diversity.

Agri-environment schemes

A general term for government programmes set up to help farmers manage their land to support biodiversity, enhance landscape and improve the wider environment (e.g. quality of air, water and soil). The current framework in the UK is provided by **Environmental Land Management Schemes (ELMS)** which include Sustainable Farming Incentive (SFI), Countryside Stewardship Higher Tier (CSHT), Landscape Recovery, plus various funding sources for capital items. Farming in Protected Landscapes (FiPL) is an additional scheme open to farmers and land managers within national parks and national landscapes. <https://www.gov.uk/guidance/funding-for-farmers>

Anaerobic

Living, active, occurring or existing in the absence of free oxygen.

Ancient and veteran trees

An **ancient** tree is one that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species. The exact age at which a tree is considered ancient depends on the species. **Veteran** trees can be any age but show ancient characteristics such as wounds or decay. These may be a result of natural damage, management or the tree's environment. Ancient trees are all veterans but not all veterans are ancient. <https://www.woodlandtrust.org.uk/media/1836/what-are-ancient-trees.pdf>

Areas that Could become of Importance for Biodiversity (ACIB)

These are areas where the responsible authority and local partners propose that effort should be concentrated to restore habitat, to achieve the most for biodiversity and the wider environment. They are areas which would have the greatest impact on achieving priorities and which would achieve greater connectivity of similar biodiverse habitats across the landscape. Some measures could feasibly be done in many locations, but the ACIB maps those that would benefit biodiversity or the environment the most.

Areas of Particular Importance for Biodiversity (APIB)

These are tightly defined in the statutory guidance as all national conservation sites and local nature reserves, all existing local wildlife sites and areas of irreplaceable habitat.

Assemblage (of species)

A group of species that would benefit from the same recovery measures.

Biodiversity (short for biological diversity)

The variety of natural life and habitats on earth. It includes all plants, animals and fungi, and the places and spaces in which they live.

Biodiversity Duty

A legal obligation imposed on public bodies in England to consider and integrate biodiversity conservation and enhancement into their activities, policies and decision-making processes.

Biodiversity Net Gain (BNG)

A way of creating and improving natural habitats to make sure development has a measurably positive impact on biodiversity compared to what was there before development. <https://www.gov.uk/government/collections/biodiversity-net-gain>



Biodiversity Opportunity Areas (BOAs)

Landscape scale areas where conservation action is likely to have the most benefit for biodiversity based on existing biodiversity interest and physical opportunities for enhancement. They are referred to within many local plans in Sussex. BOAs were identified in Sussex in 2009 as part of a wider regional process across the South East. Their boundaries and description can be found on the Sussex Nature Partnership website. [BOAs – Sussex Local Nature Partnership](#)

Biosphere Reserve (or biosphere region)

An area designated by UNESCO to inspire a positive future for people and nature, by considering everything that's needed to make life sustainable. Biospheres exist to help us learn how best to balance biodiversity and sustainable development. The Living Coast is an urban Biosphere Reserve in Sussex which includes the stretch of the South Downs and Sussex coast between the River Adur at Shoreham-by-Sea and the River Ouse at Newhaven. <https://thelivingcoast.org.uk/>

Biosecurity

A set of precautions that aim to prevent the introduction and spread of harmful organisms, such as insects, and disease-causing organisms (called pathogens) such as some bacteria and fungi.

Brackish water and habitats

Areas that are influenced by both saline and freshwater. Brackish water is saltier than freshwater but not as salty as seawater. Brackish water habitats are found in estuaries, coastal lagoons, river mouths and tidal reaches of rivers. They support a range of specialised species that are adapted to a range of salinity levels and can be diverse and ecologically significant.

Bryophytes

A group of plants that includes mosses, liverworts and hornworts. They are non-vascular plants, which means they have no roots or vascular tissue.

Carbon sequestration

The process by which carbon is removed from the atmosphere and stored. Natural habitats such as woodlands, peatlands and grasslands can sequester carbon and store it, either above ground or in their roots and soil. It plays a crucial role in limiting climate change by reducing the amount of carbon dioxide in the atmosphere

Carbon storage

Some natural habitats can store carbon they have captured, e.g. through the absorption of carbon dioxide.

Coastal squeeze

The loss or deterioration of coastal habitats where manmade structures prevent their landward movement in response to sea level rise.

Defra

Department for Environment, Food and Rural Affairs.

Distribution (of species)

Where individuals of a particular species are found and how they are spread across their habitat or range.

Ecosystems

All of the living things (plants, animals, and organisms) in a given area, as well as the non-living parts (weather, earth, sun, soil, climate, atmosphere) that interact with them. The different components of an ecosystem are linked together through nutrient cycles and energy flows.

Ecotone

The transitional area where two different ecological communities meet and integrate. For example, where grassland grades into scrub, or where scrub grades into woodland. Ecotones are characterised by features and species from both bordering communities as well as unique species that may not be found in either. As a result they often exhibit high biodiversity.

Environment Act 2021

This Act sets clear statutory targets for the recovery of the natural world. It prioritises four areas, air quality, biodiversity, water quality and waste and includes targets to reverse the decline in species abundance by the end of 2030. It provides the statutory framework for Local Nature Recovery Strategies.

Environmental Land Management Schemes

See above under 'Agri-environment schemes'.

Epiphytic

Means 'on the plant'. Epiphytes are organisms (plants and micro-organisms like mosses, liverworts, lichens, algae and micro-fungi) that grow on other plants or objects, using them for physical support, but not feeding from them. Epiphytic communities can take decades or centuries to develop and large, old, open-grown trees support rich epiphyte communities. These communities are also good indicators of air quality.

Eutrophication

The over-enrichment of soil and water by nutrients such as nitrogen and phosphorus, leading to the excessive growth of a few dominant plant species, loss of habitat diversity, deterioration in important soil biochemical functions, and oxygen depletion in aquatic environments. Eutrophication can occur naturally but is often accelerated by human activities, such as agricultural run-off and sewage discharge.

Fragmentation (of habitats)

This occurs when a large, continuous natural habitat is broken into smaller, isolated patches, often due to human activities like urbanisation, agriculture, or infrastructure development.

Green infrastructure (also green and blue infrastructure)

The network of multifunctional green spaces, landscapes and features, both urban and rural, which can deliver multiple benefits for the economy, wildlife and communities. Blue infrastructure relates to water.

Habitats

An environment inhabited by living organisms. Or a place where plants or animals normally live, characterised primarily by its physical features (topography, plant or animal physiognomy, soil characteristics, climate, water quality, etc.) and secondarily by the species of plants and animals that live there. There are a range of systems for classifying habitats into categories.

Health and wellbeing

Mental and emotional health, physical health and a healthy lifestyle all contribute to an individual's health and wellbeing.

Hectare (ha)

A metric unit area, equal to 10,000 square metres, and the equivalent of 2.471 acres in the imperial system.

Irreplaceable habitat

Habitats that would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. Irreplaceable habitats found in East and West Sussex (as defined by the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024) are: ancient woodland (including ancient semi-natural woodland, plantations on ancient woodland sites, ancient wood pasture and parkland, and infilled ancient wood pasture and parkland), ancient and veteran trees, coastal sand dunes, spartina saltmarsh swards, mediterranean saltmarsh scrub and lowland fens.

Intensive agriculture

Farming that uses a lot of machinery, labour, chemicals, etc, to grow as many crops or keep as many animals as possible on the amount of land available.

Invasive Non-Native Species (INNS)

Animals or plants, introduced by human activity, outside their natural range, that spread rapidly and cause harm to the environment, economy, or human health.

Landscape character

The distinct, recognisable and consistent patterns in the landscape, and what makes one landscape different from another. Including natural and human elements, such as geology, landform, soils, vegetation, land use, and settlement patterns.

Leachate migration

The movement of leachate (a liquid formed when water percolates through solid waste) from its source (often a landfill) into the surrounding environment. It can potentially lead to soil and water contamination, impacting ecosystems and human health.

Local Habitat Map

A key component of the Local Nature Recovery Strategy, which maps the areas that have been identified as being the most important for nature recovery, or where measures would deliver the greatest benefits to nature recovery and wider environment benefits.



Local Nature Recovery Strategy (LNRS)

New statutory spatial plans underpinning a National Nature Recovery Network, produced by 48 responsible authorities across England. Introduced by the Environment Act 2021, they are intended to reverse the decline of biodiversity and improve ecological connectivity and functionality across England. They aim to identify opportunities and priorities for nature recovery.

Local Wildlife Sites

Non-statutory sites that contain features of substantive nature conservation value. They are amongst the best sites for wildlife in Sussex. They contain species and habitats that are uncommon and rare in Sussex and sometimes further afield, and form an important component of our nature network, helping to connect and buffer statutory designated sites. Local Wildlife Sites Systems aim to establish an up to date comprehensive suite of sites. In Sussex, the Local Wildlife Sites system is maintained by the Sussex Local Wildlife Sites Initiative.

Managed realignment

The controlled inundation of land by the sea by deliberately removing or breaching existing sea defences and creating new flood defences further inland. This approach provides more sustainable flood and erosion risk management by using newly created intertidal habitats like saltmarshes to absorb wave energy and protect inland areas.

Measures

In Local Nature Recovery Strategies, measures are the official name for the set of practical actions that can deliver each LNRS's locally agreed priorities for nature's recovery.

Microhabitats

A small, localised habitat within a larger ecosystem that has conditions that support a limited range of animals and plants. Examples include a decomposing log within a woodland or a rockpool within a wave cut chalk platform.

Migrant birds

Birds that travel to a different place to take advantage of seasonal resources, especially food, so that they can breed successfully or simply survive. In the UK, we have spring migrations when summer visitors like swifts and cuckoos arrive, then autumn migrations when waders, wildfowl and other visitors return to feed and summer visitors leave.

Mosaics (Mosaic habitat)

A landscape composed of a diverse mix of different habitat types in close proximity, creating a patchwork-like structure. This variety supports a wide range of species with varying ecological needs, as the juxtaposition of habitats allows for greater biodiversity. Examples include a combination of woodlands, grasslands, wetlands, and hedgerows within a single area. Mosaic habitats are particularly valuable for wildlife that depends on multiple habitat types throughout their lifecycle.

No active intervention

Policy option decision not to invest in providing or maintaining defences against flooding or erosion, whether or not coastal defences have existed previously.

National Character Areas

Areas with similar landscape, biodiversity, geodiversity, and economic activity in England that have been divided into 159 distinct zones by Natural England. They follow natural geographical lines rather than administrative boundaries. <https://nationalcharacterareas.co.uk/>

National Landscapes

Formerly called Areas of Outstanding Natural Beauty, there are 46 National Landscapes in the UK. These are places with national importance, designated under the 1949 National Parks and Access to Countryside Act for their habitat and biodiversity, protected for the nation's benefit and each managed locally by expert teams. Area of Outstanding Natural Beauty remains the legal designation.

Natural capital

The elements of nature that produce value, either directly or indirectly, to people, such as stock of forests, rivers, land, minerals and oceans. We depend on it for the air we breathe, the water we drink and the food we eat. It boosts our health and wellbeing. It captures and stores carbon and has a vital role to play in helping us adapt to the impacts of climate change. Natural capital is also an economic concept. It considers nature as a stock of assets, which we have to invest in.

Natural Flood Management

Natural Flood Management, or NFM, involves working with nature to reduce the risk of flooding for communities. It uses various techniques to restore or mimic the natural functions of rivers, floodplains and the wider catchment. NFM aims to store water in the catchment and slow the rate at which water runs into rivers, to help flooding downstream.

Natural processes

A process existing in or produced by nature (rather than by the intent of human beings) that shape our environment and support nature, e.g. weathering, erosion, flooding, deposition etc.

Nature-based solutions

Actions which support and draw on nature to provide wider environmental or societal benefits. For example, planting trees in cities for cooling, or wet woodland planting for natural flood management.

Nature friendly

Not harmful to nature or helping to protect it. Incorporating features and practices that increase opportunities for wildlife alongside established land uses.

No Mow May

Plantlife's annual campaign to avoid mowing the lawn during May, to allow wildflowers to grow and help nature. [Plantlife's No Mow May Movement](#)

Nutrient cycling

A continuous process where dead plant material breaks down and provides nutrients to the soil that are absorbed by plant roots so that plants grow. Microorganisms play a crucial role in this cycling.

Nutrient offsetting

An approach to ensure new residential development will not cause increased nutrient pollution (nitrates and phosphates) to specific protected sites. There are three main types of offsetting site: land taken out of agricultural use and managed as grassland, e.g. wildflower meadow; land taken out of agricultural use to create woodland; and wetland created to filter nitrates. [Nutrient Neutrality Principles – TIN186](#)

Opportunities

Local Nature Recovery Strategies must include a statement of biodiversity priorities which must include a description of the opportunities for recovering and enhancing biodiversity in the Strategy area. Opportunities may be a specific action (or measure), a funding mechanism, a project or partnership, or a specific location.

Parliamentary enclosures

Enclosure is a term used in English land ownership that refers to the appropriation of 'waste' or 'common land' by enclosing it and depriving commoners of their traditional rights or access and usage. Originally this was done through informal agreement, but from the 1750s, enclosure by parliamentary Act became the norm.

Pollination

The process by which flowering plants reproduce. To produce offspring, a plant must first be fertilised with pollen which allows it to develop seeds that will grow into new plants. Pollination occurs when pollen is moved within flowers, or carried from flower to flower by pollinating animals such as birds, bees, moths or beetles, or by the wind.

Priorities

In Local Nature Recovery Strategies, priorities are the most important habitats and species which have been identified locally as needing support for their recovery or enhancement, taking into account the contribution they can also make to other environmental benefits.

Priority habitats

A wide range of semi-natural habitat types that were identified as being the most threatened and requiring conservation action under the UK Biodiversity Action Plan. The UK list of priority habitats remains an important reference source and has been used to help draw up statutory lists of habitats of principal importance for the purpose of conserving or enhancing biodiversity as required under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Ramsar sites

Wetlands of international importance under the Ramsar Convention on Wetlands. Their purpose is conservation and promotion of sustainable development through local, national, and global cooperation. There are currently 73 Ramsar sites in England covering 400,000ha. They are often also designated as SSSIs and afforded statutory legal protection.



Refuge habitats

A safe place that offers protection or shelter, such as an area (for example a nature reserve) that has been set aside for the purpose of conserving species and their habitats.

Resilience

Ability to absorb, resist or recover from disturbances or damage from both natural influences and human activities (including climate change).

Responsible Authority

Local Authorities, appointed by the Secretary of State to lead the preparation of the Local Nature Recovery Strategy for their area. In England, there are 48 Responsible Authorities, including East Sussex County Council leading the LNRS for East Sussex and Brighton & Hove, and West Sussex County Council leading the LNRS for West Sussex.

Sites of Special Scientific Interest (SSSI)

A Site of Special Scientific Interest (SSSI) is the land notified as such by Natural England under the Wildlife and Countryside Act (1981). SSSIs are some of the finest sites for wildlife and natural features in England, supporting many characteristic, rare and endangered species, habitats and natural features. There are over 4000 SSSI sites in England, covering over 8% of the country.

Special Areas of Conservation (SAC)

This international designation made by the UK Government protects the habitat of important species and those habitats considered to be most in need of conservation at a European level set out in the Conservation of Habitats and Species Regulations 2017 (as amended). There are 256 SACs covering 2,115,880ha in England.

Special Protection Areas (SPA)

SPAs are selected to protect one or more rare, threatened or vulnerable bird species listed in Annex I of the Birds Directive, or certain regularly occurring migratory species. There are 87 SPAs covering 1,926,816ha in the UK. Like Ramsar and SAC sites, they are often also designated as SSSIs and afforded statutory legal protection.

Species

Commonly defined as a group of organisms that can successfully breed to produce fertile offspring.

Successional habitats

Temporary habitats that are in transition between one habitat and another. For example, scrub is often described as a successional habitat between one habitat, like grassland or heathland, to another, like woodland.

Soil acidification

A natural process where the soil pH decreases (becomes more acidic) over time. It can be accelerated by certain plants or human activities, or slowed down by sustainable management practices.

Traditional land management practices

Farming and other land management activities that have been used for many years and that often define and conserve landscape character. They are often low-intensity practices that are adapted to local climatic, geographic and environmental conditions, and often enhance the diversity and biomass of characteristic wildlife, improve soil quality and the functioning of natural systems.

Transitional habitat

Areas that serve as an intermediary zone between different ecosystems or land uses, often undergoing natural or managed changes. These habitats provide a mix of characteristics from adjacent ecosystems, supporting a diverse range of species and ecological processes. Examples include wetlands forming between aquatic and terrestrial environments or grasslands transitioning into forests. Transitional habitats are crucial for biodiversity, offering refuge, feeding grounds, and migration corridors for various species.

Transition towns

A community-led response to the pressures of climate change, fossil fuel depletion and increasingly, economic contraction. For example, Transition Town Lewes is working to transform the town into a community that is not reliant on fossil fuels, and that can live, work and feed itself in ways that support rather than damage the natural world.

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- Brighton & Hove City Council
- Natural England

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- Arun District Council
- Brighton & Hove City Council
- Chichester District Council
- Crawley Borough Council
- Lewes & Eastbourne Councils
- Hastings Borough Council
- Horsham District Council
- Mid Sussex District Council
- Rother District Council
- Wealden District Council
- South Downs National Park Authority
- Natural England

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- Crawley Borough Council
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- Country Land and Business Association (CLA)
- Environment Agency

- Farming & Wildlife Advisory Group
- Forestry Commission
- High Weald National Landscape
- Horsham District Council
- Iford Estate
- Knight Frank
- Mid Sussex District Council
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- Natural England
- Rother District Council
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- Frances Abraham (Stoneworts)
- Helen Smith (Spiders)
- James Power (Ants, Bees & Wasps)
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Sussex Nature Recovery

A collective blueprint for targeted action



West Sussex
Local Nature Recovery Strategy
Statement of Biodiversity Priorities
Part 1 – Context & Description of
Strategy Area



West Sussex
Local Nature Recovery Strategy
Statement of Biodiversity Priorities
Part 2 – Priorities, Measures and
the Local Habitat Map



West Sussex
Local Nature Recovery Strategy
Statement of Biodiversity Priorities
Part 3 – Priority Species



West Sussex, East Sussex and
Brighton & Hove
Local Nature Recovery Strategy
Statement of Biodiversity Priorities
Part 4 – Technical Methods

View all the documents at:

SussexNatureRecovery.org.uk

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