
RECENT BIRD SIGHTINGS
Kent and Medway
Local Nature
Recovery strategy
Making space for the county's nature

August 2025

Executive Summary

The Kent and Medway Local Nature Recovery Strategy sets out the county's priorities for nature recovery and the recommended actions to deliver these. This spatially framed Strategy also identifies where in the county this action should be targeted to deliver the greatest outcomes for the county's habitats and species.

This "first of its kind" Strategy for the county has been prepared by Kent County Council, appointed by Defra as Responsible Authority. It is one of 48 strategies across England, with the shared aim of halting and reversing the decline of nature.

The Local Nature Recovery Strategy for Kent and Medway has been developed with extensive input from partners and stakeholders, with over 1,000 individuals attending events designed to enable full participation in the process.

The intention of the Kent and Medway Local Nature Recovery Strategy is to direct action and investment to areas where it is needed and will achieve the most. And, through its role in local planning, it will also help to steer losses and impacts away from the county's most valuable natural assets. The need for this approach has never been greater. We are in a climate and ecological emergency – the 2023 national State of Nature review reported that the UK is one of the most nature-depleted countries in the world, with monitoring indicating a decline in species abundance of 19% and nearly 1 in 6 species threatened with extinction. The county's own assessment of the state of nature in 2022 mirrored this national trend of species decline, with species being lost from the county and many more threatened, along with their habitats.

Kent is one of the largest counties in England and its complex geology, soils, topography and other environmental conditions has resulted in a varied landscape with a wealth of natural features and wildlife habitats. Many of these areas are designated for their national and international importance. This breadth of habitats supports a rich and varied wildlife. Over 20,000 species have been recorded in the county, representing nearly 30% of all UK species; and over 3,400 of these are rare and threatened species. The county's landscape and wildlife are also a key part of the county's identity and, as evident from the participation in the strategy's development, is very important to many of the people of Kent and Medway.

The Strategy is framed around the Lawton principles and aims to deliver better, bigger, more and joined up. It is also developed on the basis of better consideration of land management and land use, so that we can work with nature and use natural processes to tackle the challenges our county faces.

The Kent and Medway Nature Recovery Strategy has **ten ambitions for nature recovery**, that the more detailed priorities, and their associated potential measures, sit under:

1. Increasing the functional **connectivity** of high-quality habitats.
2. Increasing the use of **nature-based solutions** to environmental and societal challenges.

3. **Land management and land use** increasingly delivering nature recovery gains.
4. Restoring, connecting and extending **species-rich grassland**.
5. Safeguarding **successional habitats** from loss and damage.
6. Bringing **woodland, trees and hedgerows** under active management and increasing cover and connectivity.
7. Ensuring **freshwater habitats** are clean, sufficient and healthy and restoring catchments' functions.
8. Providing for nature in **urban** environments.
9. Securing high functioning, natural and connected **coastal** habitats.
10. **Species** at the heart of habitat management, restoration, extension and creation.

The Local Habitat Map for Kent and Medway spatially frames the Strategy, presenting:

- Areas of Particular Importance for Biodiversity – areas already afforded some level of protection and management.
- Potential measures mapping – targeting the proposed action to where it will deliver the greatest impacts for nature recovery.
- Areas that Could become of particular Importance for Biodiversity – areas identified by the collective potential measures mapping as priority for investment support the recovery of nature in the county.

The potential measures are habitat based and will in turn benefit the many species found in the county. But above and beyond this, the Strategy also identifies some 146 priority species requiring bespoke and targeted intervention owing to their rareness, significance or vulnerability. It is expected that the identified targeted action for these priority species will also offer benefits to the wider species of the county.

Whilst the Strategy makes no requirement for its measures to be implemented, it offers a comprehensive guide to nature recovery that will present many strategic and financial opportunities to farmers, landowners, planners, developers, community groups and others, in taking forward the measures.

The Kent and Medway Local Nature Recovery Strategy is not starting from scratch, nor from a point of inaction – we already have significant and important areas for wildlife, many of which are already benefiting from action to protect and enhance. But we're also not starting from a point of perfection. Many of our protected sites are in unfavourable condition, our wildlife is declining, and our habitats are degraded and fragmented. This is why the Strategy's principles start with improving and safeguarding what we already have and aim towards extending and providing connectivity between these areas, giving nature more resilience.

The Strategy is indebted to the extensive contributions of all partners and stakeholders who contributed so much time, expertise and support throughout the process. This now established framework of collaboration for the Local Nature Recovery Strategy provides a firm footing on which to take the strategy forward following publication.


ROADSIDE NATURE RESERVES
GREEN BRIDGES
JOINED UP
IMPROVE QUALITY OF LAND IN BETWEEN SITES TO ENCOURAGE CONNECTIONS + CREATE NEW PHYSICAL CORRIDORS
MOSAIC HABITATS
FOOTPATH
ACCESS TO NATURE
Good Quality HABITAT MANAGEMENT
CONSERVATION
RIGHT TREE IN THE RIGHT PLACE
SAFEGUARDING OUR MOST VALUABLE ASSETS
The Garden of England
ANIMAL HIGHWAYS
ANIMAL BANKS
Connection to NATURE
MORE ABUNDANCE
MORE DIVERSITY
MORE GREEN SPACES
More HABITATS
More SPECIES
BETTER
IMPROVE THE QUALITY OF OUR EXISTING HABITATS + BY RESOURCING + MANAGING BETTER, CONSERVE + SAFEGUARD WHAT WE ALREADY HAVE
WHITE CLIFFS
ANCIENT WOODLAND
CHALK GRASSLAND
LONG + VARIED COASTLINE
BIGGER
INCREASE THE SIZE + BUFFER OUR MOST VALUABLE HABITAT SITES + PROTECT THEM FROM THE PRESSURES OF HUMAN INFLUENCE
MORE
THROUGH HABITAT RESTORATION + CREATION, ESTABLISH NEW NATURE-RICH SITES THAT PROVIDE MORE SPACE + CONNECTIVITY BETWEEN EXISTING SITES
CHALK STREAMS
NATIONAL LANDSCAPES
Cleaner air
Collaboration
WATER QUALITY + QUANTITY
TREE CANOPY SHADE + COOLING
CARBON CAPTURE + STORAGE
BUFFER STRIPS
GREEN ROOFS + WALLS
MEANDERS + DAMS
NATURE FRIENDLY FARMING
FLOWER RICH MEADOWS
FIELD MARGINS
IT ALL STARTS IN THE SOIL...
Kent and Medway Local Nature Recovery strategy
Making space for the county's nature
NATURE RECOVERY PRINCIPLES
NATURE BASED SOLUTIONS
LAND MANAGEMENT & LAND USE

An introduction to the Kent and Medway Local Nature Recovery Strategy document

The Kent and Medway Local Nature Recovery Strategy is presented four parts, in line with the statutory requirements. Click on the links to go straight to that section of the document.

Part 1 – What is a Local Nature Recovery Strategy

1. Background to the Local Nature Recovery – why the Strategy has been developed.

2. Purpose of the Local Nature Recovery Strategy – what the Strategy provides, what it intends to do and what it does not do.

3. Understanding the elements of the Local Nature Recovery Strategy – the statutory elements of the Strategy and what they provide.

4. Informing nature recovery in Kent and Medway – how the Strategy:

- Directs action for nature.
- Influences local planning.
- Influences planning decisions.
- Influences biodiversity net gain.

5. Development of the Kent and Medway Local Nature Recovery Strategy – outlining how the Strategy was developed, including:

- Collaborative framework.
- Identification of pressures and challenges for nature.
- Agreeing the priorities for nature recovery in Kent and Medway.
- Developing the potential measures that would deliver the nature recovery priorities.
- Mapping the potential measures.
- Creating the Local Habitat Map.
- Identifying the Strategy's priority species.

Part 2 – Strategy Area Description

1. Kent and Medway's Natural Landscape – a look at the various natural features which comprise the county.

2. Protected areas of Kent and Medway – including National Landscapes and nationally and locally designated areas.

3. What makes Kent and Medway's nature so special – a summary of the habitats and species of note that can be found within the county. More detail on the habitats can be found in Part 3 of the Strategy.

4. A changing landscape – a look at how the county's habitats and species have changed.

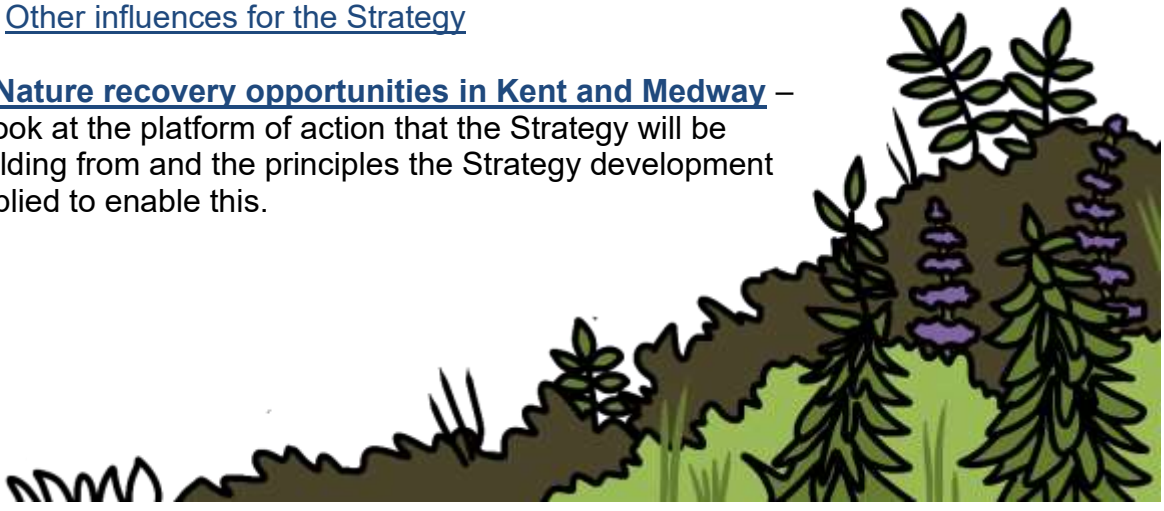
5. Pressures, threats and challenges for Kent and Medway's nature

- Climate change
- Pollution
- Water demand and management
- Human pressures
- Built up areas
- Agricultural practices
- Land management practices
- Game hunting, wildfowling, game fishing and coarse fishing
- Diseases and invasive and non-native species
- Lack of funding and resources
- Lack of data, evidence and understanding

6. Strategic context for the Kent and Medway Local Nature Recovery Strategy

- Local strategic context for the Kent and Medway Local Nature Recovery Strategy – local plans
- Local strategic context for the Kent and Medway Local Nature Recovery Strategy – other relevant spatial plans in Kent and Medway
- National Strategic context for the Kent and Medway LNRS
- Other influences for the Strategy

7. Nature recovery opportunities in Kent and Medway – a look at the platform of action that the Strategy will be building from and the principles the Strategy development applied to enable this.



Part 3 – Statement of Biodiversity Priorities

Better, bigger, more and joined up – the overarching principles for nature recovery in Kent and Medway.

Kent and Medway's Vision for Nature Recovery – outlining the Strategy's ten ambitions for nature recovery.

Understanding the priorities and potential measures – an overview of how the priorities and measures deliver against the Strategy principles.

The priority and measures page layout – how the Strategy priorities and measures are presented and how to use the information presented.

How to use the potential measures and mapping to inform nature recovery – including:

- Mapping limitations.
- Identifying action to recover nature.
- Prioritising action.
- Using the wider measures maps.
- Informing biodiversity net gain.
- Protecting nature.

Connectivity priorities and potential measures – an overview of habitat fragmentation and the importance of improving connectivity, and presentation of the priorities and potential measures.

Nature-based solutions priorities and potential measures – an overview of nature-based solutions and the opportunities in Kent and Medway, and presentation of the priorities and potential measures.

Land management and land use priorities and potential measures – an overview of land management and land use and the opportunities in Kent and Medway, and presentation of the priorities and potential measures.

Habitat priorities and potential measures – an overview of the county's habitat, pressures and threats, and the importance of, and opportunities for, recovering the habitat; a summary of nature-based solution opportunities and wider benefits of the habitat; and presentation of the priorities, potential measures and priority maps for:

- **Grassland** habitats overview, and priorities and potential measures.
- **Successional** habitats overview, and priorities and potential measures.
- **Woodland, trees and hedgerows** overview, and priorities and potential measures.
- **Freshwater habitats** overview, and priorities and potential measures.
- **Urban** habitats overview, and priorities and potential measures.
- **Coastal** habitats overview, and priorities and potential measures.

Species priorities and potential measures – an overview of Kent's species; and presentation of the species identified as priorities for the Strategy and the potential measures needed for their recovery.

- Amphibians
- Annelids
- Bees, Wasps and Ants
- Beetles
- Birds
- Butterflies
- Caddisflies
- Crustaceans
- Dragonflies and Damselflies
- Fish
- Fungi
- Grasshoppers, Crickets and Allies
- Lichen
- Mammals
- Millipedes
- Molluscs
- Moths
- Reptiles
- Spiders
- True Bugs
- Vascular Plants

Part 4 – Local Habitat Map

The mapped components of the Strategy's Local Habitat Map:

- Location and extent of areas identified as of particular importance for biodiversity.
- Locations where potential measures have been proposed.
- Location and extent of areas identified that could become of particular importance for biodiversity.

Maps are better viewed online with the Kent and Medway Nature Recovery Strategy online mapping tool.

Part 1

What is a Local Nature Recovery Strategy

1. Background to the Local Nature Recovery Strategy

In 2022, the Government published targets to protect our environment, clean up our air and rivers and boost nature were published. These legally-binding commitments pledged to end the decline of nature and for nature to recover. These commitments acknowledged that such action was required not just for nature's sake but also for all the services that we rely on nature for:

- Provisioning – for example, food and drink, water supply and materials.
- Regulating – for example, clean air, carbon storage and pollination.
- Supporting – for example, healthy soils and nutrient cycling.
- Cultural – for example, physical health and wellbeing, tourism and recreation.

Recognising that any recovery of nature would need targeted, co-ordinated and collaborative action the Environment Act 2021 set in place a requirement for the development of Local Nature Recovery Strategies.

With 48 of these across England with no gaps or overlaps, each Strategy would agree the priorities for nature recovery and propose actions in locations where it would make a particular contribution to achieving those priorities.

Responsible authorities were appointed to lead on the preparation of these strategies – for Kent and Medway, this was Kent County Council. Responsible authorities were provided with a grant for the development of the Strategy and were required to follow the Local Nature Recovery Strategy regulations and statutory guidance when preparing the Local Nature Recovery Strategy.

Key to the Strategy's preparation was a collaborative approach, with responsible authorities required to work with a wide range of stakeholders to agree what should be included.

Stakeholders were considered to be anyone who could play a part in recovering nature and the wider environment – consequently it was a broad and wide-ranging number of people that participated.

By working closely with these stakeholders, many of whom would be future delivery partners, the Strategy would benefit from the input of people who know and understand the Strategy area and what's needed to restore nature and help it thrive. Responsible authorities were expected to provide local leadership to draw together knowledge, expertise and the best available information and data to create an ambitious but achievable Strategy, with practical proposals.

2. Purpose of the Local Nature Recovery Strategy

The Kent and Medway Local Nature Recovery Strategy provides:

- Set of agreed, ambitious priorities for nature recovery.
- Practical and deliverable potential measures that will deliver on these agreed priorities.
- Spatially framed Strategy that not only identifies what potential action but also where, focussing action to where it is most needed and where it will deliver the greatest benefits.
- Shared vision for nature recovery and the use of nature-based solutions in Kent and Medway.
- Framework for joined-up action, developed with those who will be instrumental in its delivery.

The intention of the Kent and Medway Local Nature Recovery Strategy is to:

1. Direct action and investment to areas where it is most needed and will derive the greatest benefits.
2. Steer losses and impacts away from the county's most valuable natural assets.
3. Maximise the opportunities for development, land use and land management to make a positive contribution nature recovery.

How the Strategy will be used to inform nature recovery is detailed in section 4.

The mechanisms for this are provided by

- A new duty on all public authorities to have regard to relevant local nature recovery strategies.
- An incentive in how the new requirement for biodiversity net gain is calculated - to recognise the added impact of taking action where the Local Nature Recovery Strategy proposes.
- Integration of Local Nature Recovery Strategies into the planning system, so that areas of greatest potential for nature recovery can be better reflected in planning decisions.
- Funding for specific activities that local nature recovery strategies will be expected to propose locations for.

The Strategy will not:

- Draw localised, detailed boundaries but will identify areas where action is likely to provide the greatest gains.
- Dictate actions or instruct their implementation but will identify potential measures that could be taken to support the recovery of nature.
- Force landowners and managers to make changes to the way they use and manage the land or their operations. But action will be incentivised by linking delivery of the Strategy priorities to a wide range of government grants and funding.

- Prevent development from happening but will inform future local plans, in terms of land use planning, and inform development management, in relation to biodiversity net gain.
- End in 2025 – once published, the real work begins in respect of delivery. Further the Strategy itself will be reviewed, revised and republished on a regular cycle, which must happen every 3 to 10 years.

The Local Nature Recovery Strategy is habitat and species focussed and can only include priorities and actions which relate to nature recovery and wider environmental benefits. Consequently, it does not make provision for access nor health and wellbeing. However, it does seek to maximise the benefits to these societal needs of a healthy and thriving natural environment by, where appropriate, directing nature recovery action to where such additional benefits will be most notably felt.

3. Understanding the elements of the Local Nature Recovery Strategy

The Local Nature Recovery Strategy (LNRS) is a set of agreed priorities for Kent and Medway's nature recovery, with spatially framed potential measures to deliver these.

A **priority** is the outcome we want to see for nature.

A **potential measure** is the proposed action to deliver the priority – these must be practical and achievable.

The **Local Habitat Map** is a map of the Strategy area that provides a clear visual way for groups and individuals to understand the areas which are, or could become, of particular importance for biodiversity and the environment to target nature recovery action. The mapped parts include:

- Location and extent of areas identified as of particular importance for biodiversity.
- Locations where potential measures have been proposed.
- Location and extent of areas identified that could become of particular importance for biodiversity.

Areas of particular importance for biodiversity are the strategy area's national conservation sites, local nature reserves, local wildlife sites and irreplaceable habitat. The areas eligible for inclusion in this map is tightly defined by the Local Nature Recovery Strategy regulations.

Potential measures mapping identifies where the action determined as necessary for our nature recovery priorities should be strategically targeted to achieve the greatest gains for biodiversity and deliver the widest environmental benefits.

Areas that could become of particular importance for biodiversity comprise the extent of the potential measures, with areas of particular importance for biodiversity excluded. These are the areas where the Strategy proposes effort should be concentrated to restore habitat, to achieve the greatest gains for nature and derive the greatest benefits from a healthy, functioning environment. They are the areas of Kent and Medway where targeted action will enable us to deliver on the priorities laid out by the Strategy.

Wider measures are proposed actions which would be similarly beneficial over wide areas or those where it was not possible to determine specific locations to carry out the proposed action. Collectively, these wider measures identify areas of additional opportunities for nature recovery but do not form a part of the formal Local Nature Recovery Strategy's Local Habitat Map.

Priority species are species the Strategy has determined should be prioritised for recovery action. They were identified from an initial list of threatened and locally significant species.

Within the Strategy document you will also find:

- A description of the Strategy area and its biodiversity – with a general overview in the Strategy Area Description and more detail provided alongside the relevant habitat and species priorities in the Statement of Biodiversity Priorties.
- An overview of how the distribution and extent of habitats has changed.
- Pressures for nature, and challenges to its recovery.
- The national and local strategic context for the Local Nature Recovery Strategy.
- The opportunities for recovering and enhancing biodiversity.
- Wider environmental issues affecting part or all of the Strategy area which changes in land use or management, nature-based solutions, could help to address.

4. Informing nature recovery in Kent and Medway

4.1 Directing action for nature recovery

The Strategy goes beyond ambition, identifying potential measures (actions) for nature's recovery. The Strategy also identifies the areas of the county where this action is most needed or is likely to provide the greatest benefit.

The Strategy maps these measures, and the target areas, in the "areas that could become of particular importance for biodiversity". These maps do not dictate actions nor instruct their implementation – landowners and managers should not read these as enforced changes to the way they use and manage the land or their operations. However, delivery of these potential measures (actions) will be incentivised through a range of government grants and funding and other public and private finance.

4.2 Influencing local planning

4.2.1 National planning practice guidance on Local Nature Recovery Strategies

In February 2025, the Government published updated planning guidance to outline the requirements in respect of the regard Local Plans should pay to Local Nature Recovery Strategies.

Local Nature Recovery Strategies are intended to support local planning authorities in preparing local plans that conserve and enhance biodiversity and the natural environment, and local planning authorities have a legal duty to have regard to the relevant strategy for their area. Local planning authorities should consider the priorities set out in the relevant Local Nature Recovery Strategy when determining how their local plan should contribute to and enhance the local and natural environment.

Paragraph 192(a) of the National Planning Policy Framework states that local plans should identify, map and safeguard areas identified by national and local partnerships for habitat management, enhancement, restoration or creation. Local Nature Recovery Strategies, prepared by local partnerships, identify these areas and therefore provide an important and ready-made evidence base for the local plan requirements.

Local planning authorities should consider how the areas mapped and identified in the relevant Local Nature Recovery Strategy, and the measures proposed in them, 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.

Relevant Local Nature Recovery Strategies can also inform the preparation of Neighbourhood Plans and Spatial Development Strategies.

4.2.2 Local Nature Recovery Strategies and Kent's local plans

Many of the county's planning authorities already have in place revised local plans and policies, or are well advanced in their process of plan revision. In the absence of anything to the contrary in the February 2025 guidance, it is not expected that the Strategy will be applied retrospectively or supersede any land use decisions already taken, including allocated sites.

It is also important to note that whilst the Strategy has an important role in informing local plans and may be used by local planning authorities to identify areas they wish to safeguard, is not designed as a tool to prevent development nor do the identified "areas that could become of particular importance for biodiversity" preclude development. Instead, it will guide development in maximising positive outcomes for nature.

The term safeguard, used throughout the Kent and Medway Local Nature Recovery Strategy, does not imply a formal protection nor prevention of potentially impactful activities, unless already identified within an existing and adopted local plan or an already established legal protection. Safeguarding may be delivered by setting aside the land but also refers to the use of active management that prevents loss and damage, the use of buffers to minimise human impacts and connecting habitats to increase resilience. Where measures refer to safeguarding areas, this does not mean that nothing can happen in these areas; rather that appropriate action should be taken within these areas to support the habitats and species they are notable for.

4.3 Influencing planning decision making

The 2025 updated planning guidance states that 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.

In cases where there is a draft Local Nature Recovery Strategy that has been consulted upon but not yet finalised and published, the draft strategy may contain useful evidential information that can support appropriate decision making.

4.4 Influencing biodiversity net gain

The Strategy will also help the delivery of meaningful biodiversity net gain. Biodiversity net gain is a mandatory requirement that aims to make sure that development has a measurably positive impact on biodiversity. This “gain” is calculated through the use of a standardised metric, which identifies the biodiversity value of the land lost and the biodiversity gained.

The 2025 updated planning guidance notes that Local Nature Recovery Strategies will identify areas where habitat creation, restoration or enhancement would be most beneficial for nature recovery and wider environmental outcomes and that the Strategies can play a critical role in supporting offsite gains to be delivered in a way that maximises biodiversity benefits, when these are required to achieve a development’s biodiversity gain objective. This can help to support bigger and more joined-up areas in which our wildlife can thrive.

Local Nature Recovery Strategies are designed to promote the delivery of offsite biodiversity gain in the right places, where offsite provision is needed to meet the biodiversity gain condition for a development and it cannot be met in full through onsite habitat enhancements.

The Local Nature Recovery Strategy can be used as a key source of information regarding strategic approaches to off-site biodiversity net gain delivery and connections to existing habitat, when local planning authorities are carrying out their functions in respect of biodiversity net gain.

The statutory biodiversity metric formula takes different factors into account, including the habitat’s size, condition, type and strategic significance. Strategic significance is the local significance of the habitat based on its location and habitat type. Where a Local Nature Recovery Strategy has been published, high strategic significance (and the associated score) is applied when:

- the location of the habitat parcel has been mapped in the Local Nature Recovery Strategy as an area where a potential measure has been proposed to help deliver the priorities of the Strategy; and
- the proposed intervention is consistent with the mapped potential measure in the Local Nature Recovery Strategy for the habitat parcel.

5. Development of the Kent and Medway Local Nature Recovery Strategy

5.1 A collaborative framework for development

The Local Nature Recovery Strategy's preparation was evidence-led and collaborative, with wide involvement of public, private and voluntary sectors.

The work was undertaken in a transparent and inclusive manner, with clear communications at every step.

To support this, a governance and delivery structure was created to ensure that the Kent & Medway Local Nature Recovery Strategy:

- Met the requirements of the regulations and statutory guidance.
- Benefitted from the knowledge and expertise within the county, to ensure it is technically sound.
- Engaged all stakeholders throughout the whole process, to secure the support and buy-in critical to the successful delivery of the Strategy's priorities.

This structure included:

Project Board – providing political and strategic oversight and governance for the development of the Strategy.

Delivery Group – providing technical and sectoral advice required to steer the preparation of the Strategy.

Supporting Authorities Group – Supporting Authorities for the Kent & Medway Local Nature Recovery Strategy are defined under the Local Nature Recovery Strategy Regulations (2023) as all of the Strategy area's local planning authorities and Natural England. The regulations require the Responsible Authority (Kent County Council) to take reasonable steps to involve, share information with and have regard to the opinions of supporting authorities. Consequently, this group was formed to provide a forum where Supporting Authorities' input to the Local Nature Recovery Strategy can be effectively and efficiently facilitated, in a collaborative manner.

Technical Advisory Groups, focussed groups of the county's experts, for specific elements of the Strategy development, selected on the basis of their technical competency and/or experience, that ensured the soundness of resulting Strategy. The advisory groups were appointed to advise on and support – data, evidence and mapping; species recovery; landowner engagement; and broader stakeholder engagement and communications.

Neighbouring Responsible Authority Group, ensured regular linking in with the Local Nature Recovery Strategies being developed in adjacent counties to enable

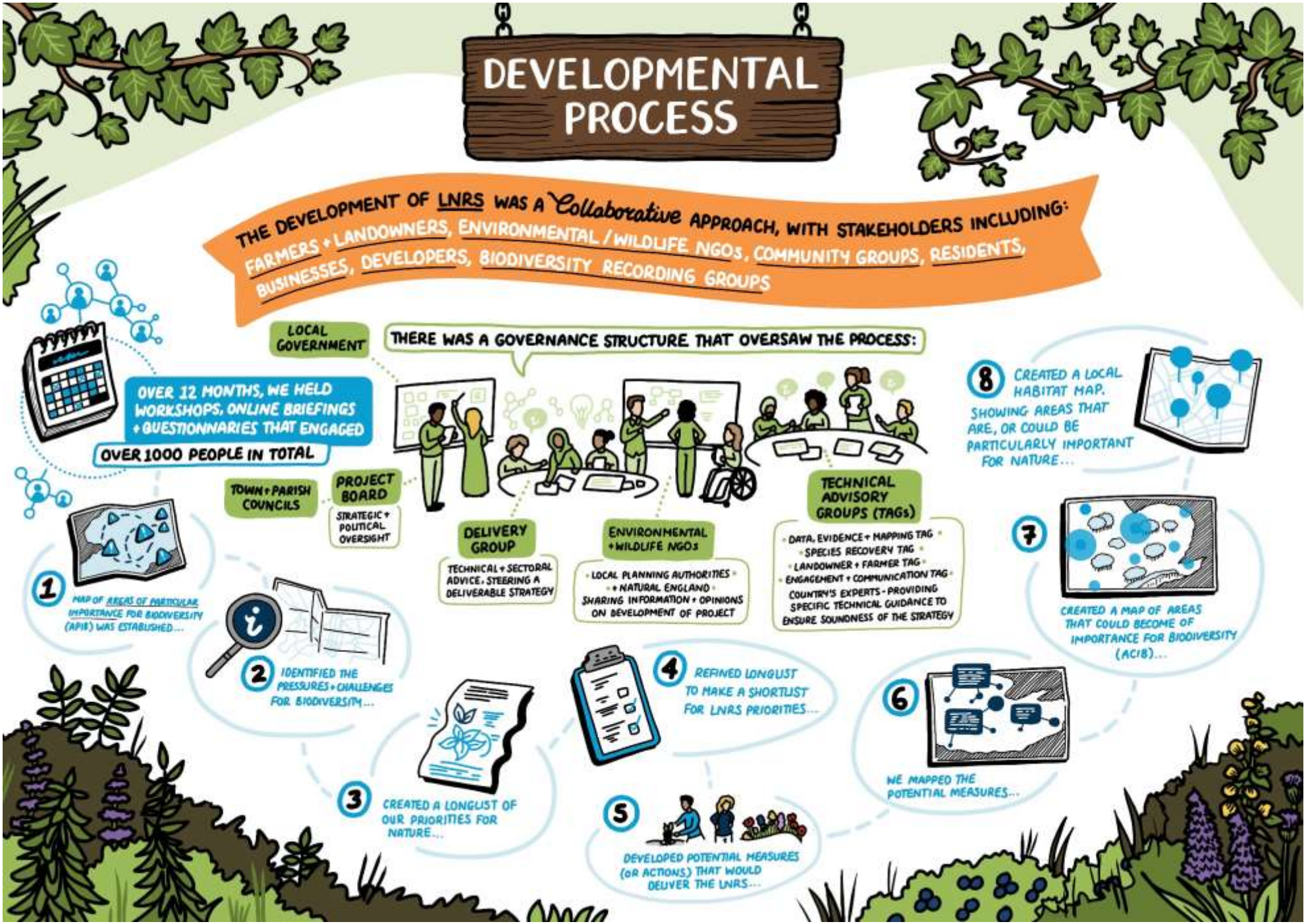
join-up of shared priorities where the Strategy areas meet and compatible approaches for the Strategy's development.

Participation forums and workshops for the wider stakeholder base – across the Strategy's development twenty, open to all, workshops were held with the participation of over 1,000 people all contributing to the resulting Local Nature Recovery Strategy.

All elements of the collaborative framework participated at every step of the development process. Throughout all these developmental stages, partners and stakeholders informed and inputted to the process. More detailed information on the development of each stage is provided in Local Nature Recovery Strategy development supporting information, available from www.makingpsacefornaturekent.org.uk

The Strategy is indebted to the extensive contributions of all partners and stakeholders who contributed so much time, expertise and support throughout the process. Appendix 1.1 acknowledges all organisations and individuals who contributed.

Development of the Strategy has followed Defra and Natural England guidance and advice – details of these document can be found in the Reference section.


DEVELOPMENTAL PROCESS
THE DEVELOPMENT OF LNRS WAS A Collaborative APPROACH, WITH STAKEHOLDERS INCLUDING: FARMERS + LANDOWNERS, ENVIRONMENTAL / WILDLIFE NGOs, COMMUNITY GROUPS, RESIDENTS, BUSINESSES, DEVELOPERS, BIODIVERSITY RECORDING GROUPS
OVER 12 MONTHS, WE HELD WORKSHOPS, ONLINE BRIEFINGS + QUESTIONNARIES THAT ENGAGED OVER 1000 PEOPLE IN TOTAL
LOCAL GOVERNMENT
THERE WAS A GOVERNANCE STRUCTURE THAT OVERSAW THE PROCESS:
TOWN + PARISH COUNCILS
PROJECT BOARD
STRATEGIC + POLITICAL OVERSIGHT
DELIVERY GROUP
TECHNICAL + SECTORAL ADVICE, STEERING A DELIVERABLE STRATEGY
ENVIRONMENTAL + WILDLIFE NGOs
• LOCAL PLANNING AUTHORITIES • + NATURAL ENGLAND • SHARING INFORMATION + OPINIONS ON DEVELOPMENT OF PROJECT
TECHNICAL ADVISORY GROUPS (TAGs)
• DATA, EVIDENCE + MAPPING TAG • • SPECIES RECOVERY TAG • • LANDOWNER + FARMER TAG • • ENGAGEMENT + COMMUNICATION TAG • COUNTRY'S EXPERTS - PROVIDING SPECIFIC TECHNICAL GUIDANCE TO ENSURE SOUNDNESS OF THE STRATEGY
1 MAP OF AREAS OF PARTICULAR IMPORTANCE FOR BIODIVERSITY (APIB) WAS ESTABLISHED...
2 IDENTIFIED THE PRESSURES + CHALLENGES FOR BIODIVERSITY...
3 CREATED A LONGLIST OF OUR PRIORITIES FOR NATURE...
4 REFINED LONGLIST TO MAKE A SHORTLIST FOR LNRS PRIORITIES...
5 DEVELOPED POTENTIAL MEASURES (OR ACTIONS) THAT WOULD DELIVER THE LNRS...
6 WE MAPPED THE POTENTIAL MEASURES...
7 CREATED A MAP OF AREAS THAT COULD BECOME OF IMPORTANCE FOR BIODIVERSITY (ACIB)...
8 CREATED A LOCAL HABITAT MAP. SHOWING AREAS THAT ARE, OR COULD BE PARTICULARLY IMPORTANT FOR NATURE...

5.2 Identification of pressures and challenges for nature

The starting point for the development of the Kent and Medway Local Nature Recovery Strategy was to determine the key issues the Strategy needed to consider when setting priorities for nature recovery – what the Strategy should be responding to and the actions needed to address these. Through a series of workshops, stakeholders identified pressures, threats and challenges facing the county's biodiversity both now and as anticipated into the future.

These pressures and challenges are discussed further in Part 2 chapter 5.

5.3 Agreeing the priorities for nature recovery in Kent and Medway

At the same time as determining the pressures and challenges for the county, stakeholders also outlined the outcomes they would like to see for nature – what a county with recovered habitats and restored species populations would look like. This created the initial longlist of potential priorities.

Criteria to aid the prioritisation of this longlist was developed, with input from stakeholders to ensure this was a fair and equitable selection process. Refinement against the criteria selected priorities that:

- Were within the scope of the Local Nature Recovery Strategy remit and ability to affect.
- Addressed key pressures and challenges.
- Related to habitats and/or species of national or local significance.
- Contributed to national targets and/or supported local targets (as identified by the review of national and local strategies and plans – see Part 2 chapter 6 for further detail).
- Were urgent, related to climate change vulnerability and/or presented opportunity for nature-based solutions.

Further workshops were held to review the draft priorities. Although this did not lead to any further refinement, it did confirm that the priorities provided the right focus for nature recovery in the county.

5.4 Developing the potential measures that would deliver the nature recovery priorities

Potential measures were also developed with stakeholders – this ensured that future action for the county's nature was based on expert and experienced input, meaning the measure would be both appropriate and deliverable. To support this work, the strategy and plans review highlighted where existing ambitions and targets for the county could be aligned with, and supported by, the future measures of the Local Nature Recovery Strategy (see Part 2 chapter 6).

Potential measures were also taken from the number of Local Nature Recovery Strategy guidance documents produced by nature conservation and species charities and groups (Part 2 chapter 6), and reference was made to eligible actions under the various Environmental Land Management funding streams.

5.5 Mapping the potential measures

The purpose of mapping of the potential measures is to determine where in the county effort should be concentrated to restore habitat, in order to achieve the most for biodiversity and the wider environment.

The potential measures mapping was created by an iterative process which is outlined below.

5.5.1 Initial approach to mapping of potential measures

Available data and evidence to inform and define the mapping of each potential measure was reviewed, to determine whether or not the measure could be mapped as per the statutory prerequisites of a Local Nature Recovery Strategy. These require the Strategy to be ambitious in proposing change but also realistic in the need to concentrate effort where it will have most benefit. The guidance notes that indiscriminate or widespread mapping of areas will not aid the targeting of available resources and therefore when considering feasible locations, it should be considered which would have the greatest impact on achieving the priorities and which would achieve greater connectivity.

5.5.2 Ensuring the value of the whole county to nature recovery was represented by the maps

The initial approach of only mapping measures that could be sufficiently refined in order to meet the Local Nature Recovery Strategy mapping requirements, meant that some areas of the county appeared to have no potential or importance for nature recovery. This was not the case and instead represented areas where measures largely related to improving management (and therefore there was little on which to prioritise one area over another), or the available data just simply wasn't sufficient to enable the required refinement. But stakeholders viewed this as problematic and unrepresentative of the actual value of these areas to nature recovery.

The approach was therefore taken to categorise the measures based on whether they led to targeted and defined action or whether they applied more widely across the county, with some mapping possible albeit only to the extent of basing opportunity on existence of habitat type or potential for that habitat type. In some cases, potential measures were not mapped at all as they could be applied widely across the Strategy area, with little spatial limitations. These measures have been included under the land management principles for each priority. Measures therefore are either:

- Potential measure – the proposed action has been identified to an area or areas that will have the greatest impact on achieving the priorities and which would achieve greater connectivity. Collectively, these potential measures identify areas that could become of particular importance for biodiversity and are a constituent part of the formal Local Nature Recovery Strategy's Local Habitat Map.
- Wider measure – a proposed action which would be similarly beneficial over wide areas or it was not possible to determine specific locations to carry out the proposed action. Collectively, these wider measures identify areas of additional opportunities for nature recovery but do not form a part of the formal Local Nature Recovery Strategy's Local Habitat Map.

The data and mapping approach for each potential measure can be found in Appendices 1.2 and 1.3.

5.5.2 Refining and reviewing the maps

The potential measures mapping was reviewed and refined with stakeholders and partners through a series of workshops and meetings, including direct discussions with landowners, local planning authorities and other delivery partners and decision-making bodies. This provided extensive local knowledge and expertise, which allowed some ground truthing of the desk-based mapping work, further focussing and targeting to more defined areas and the consideration of deliverability in the areas proposed.

Additional refinement of the potential measures mapping focussed on opportunities to address wider environmental challenges by nature-based solutions; other wider benefits such as health and access; and opportunities to build on existing action or delivery. The final data and mapping approach for each potential measure can be found in Appendices 1.2 and 1.3.

5.5.3 Mapping potential measures to nationally designated sites

Potential measures have been mapped to areas of particular importance for biodiversity. It is recognised that the majority of designated sites in the county (Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas, Ramsar sites and National Nature Reserves) will already have in place management plans and approaches, with some of these designed to maintain and/or protect the feature(s) the site is designated for. It would therefore not be appropriate for the mapped potential measure to override anything already in place. This is

particularly the case where the potential measure relates to the creation of habitat. However, the potential measures mapping has been designed to deliver a coherent network for nature recovery across the Strategy area and therefore it was determined that measures mapped to designated areas should be retained, so their appropriateness can be considered at the point of planning for delivery or when and if the management plan is reviewed. How potential measures may be applied to nationally designated sites in the future, will be an ongoing point of discussion during the Strategy's delivery, monitoring and review phases.

5.5.4 Inclusion of areas identified for development

During the development of the mapping, the work questioned whether local plan site allocations, which identify specific locations for future development, should be excluded from the potential measures mapping and, consequently, the "areas that could become of particular importance for biodiversity". In agreement with the county's local planning authorities, it was agreed that such sites would not be excluded, for the following reasons:

- The Local Nature Recovery Strategy does not instruct what should happen on land, rather it informs. Therefore, overlap with a potential measure does not prevent development from occurring on that land. It does however offer direction on what measures for nature could be integrated within the development site to aid nature recovery.
- If allocated sites were removed, it would undermine the integrity of the Strategy and its role in biodiversity net gain – that being to identify strategically significant areas for nature and inform strategic significance within the metric. The potential measures will also indicate what actions (gains) would be most beneficial – removal would result in missing the opportunity to steer onsite biodiversity net gain.
- Removal of allocated sites would give the message that nature has no place within development or growth, suggesting that the two are incompatible. Planned and designed correctly, necessary development has the potential to contribute to nature recovery efforts and removal of future sites would undermine this.
- The potential measures mapping identifies opportunities for nature-based solutions, which can assist developers in finding solutions to challenges on site.

For the same reason, sites where development is coming forward were also included.

For sites where development has already been through the planning process or where construction is underway, it was determined that these would be excluded except for measures which fell under priorities relating to urban, successional, connectivity, freshwater and coastal. It was considered that measures under these priorities would still be applicable on newly developed land in the future.

5.5.5 Online tools to spatially capture existing and future nature recovery action

Using online mapping tools, stakeholders were asked to let the project know where in the county nature recovery action was already taking place and where in the county they wished to see action, and what. The intention was to use this information in the refinement of the potential measures mapping, using it as a indication of where gains could be built on and where delivery may be more achievable, based on an expressed interest.

However, although there was a good response and useful information was captured, it was considered too sporadic and incomplete a picture to confidently base the mapping of potential measures on.

Whilst it was considered not appropriate to use the data to refine the location of potential measures in a strategic context, the data will be useful in the delivery of the measures and can be used to indicate where efforts to deliver potential measures might be best focused in the first instance.

5.5.6 Mapping more than one potential measure to the same location

In some instances, more than one measure has been mapped to the same location. The Strategy has done this for a number of reasons:

- One measure does not necessarily preclude the delivery of another – the Strategy is aiming to maximise benefits for both biodiversity and wider environmental gains; it is also looking to create a mosaic of different habitats and stages of habitats, necessary for the recovery of nature and supporting the life stages of many of the county's threatened and vulnerable species.
- The mapping of potential measures has been desk-based and theoretical, albeit with the input of partners and experts who have an in depth understanding of the county's ecology. However, the appropriateness of a measure to a location can only really be guaranteed with up-to-date knowledge and/or assessment of the land itself. Hence the Strategy sets out the best option or options for nature recovery but does not make assumptions on what measure should be prioritised over another. There should be full consideration before taking action, and ideally with the guidance of a suitable expert/professional.
- Mapping more than one potential measure to a location will support the development of both small-scale (one action, one habitat, on species) project but also those that are larger, long-term and more ambitious in scale.
- Preference over measures does not just come from an ecological perspective. There may be actions that are more palatable to a landowner than other, because of impacts on current and future uses of the land and also financial benefits of one action over another. Having more than one potential measure mapped to a location, all of which will deliver benefits for nature recovery, maximises the opportunity for an action to be picked up.

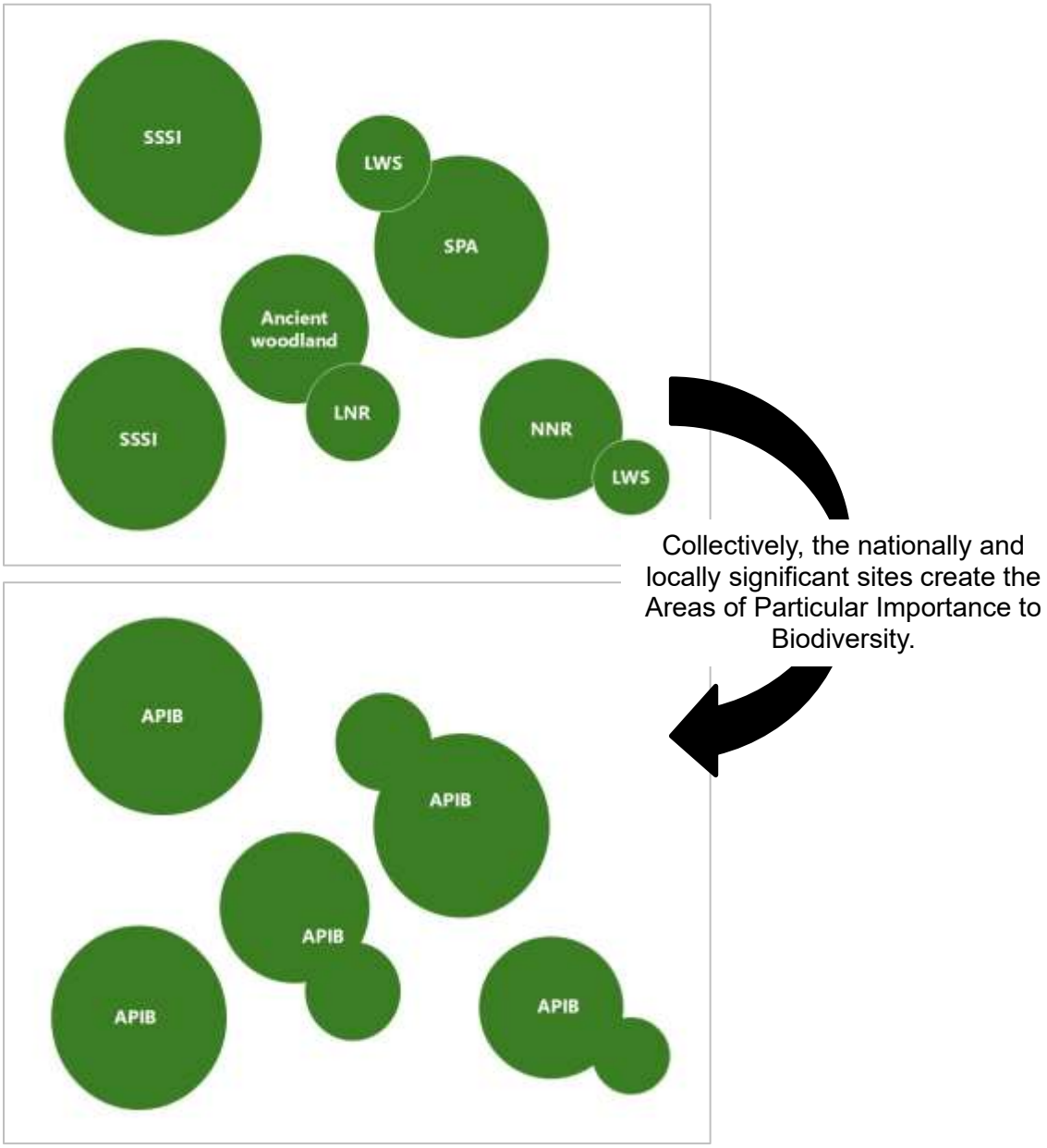
5.6 Creating the Local Habitat Map

The local habitat map illustrates the county's Areas of Particular Importance for Biodiversity and Areas that Could become of particular Importance for Biodiversity.

5.6.1 Areas of particular importance for biodiversity

Areas of Particular Importance for Biodiversity are defined by the Local Nature Recovery Strategy statutory guidance as:

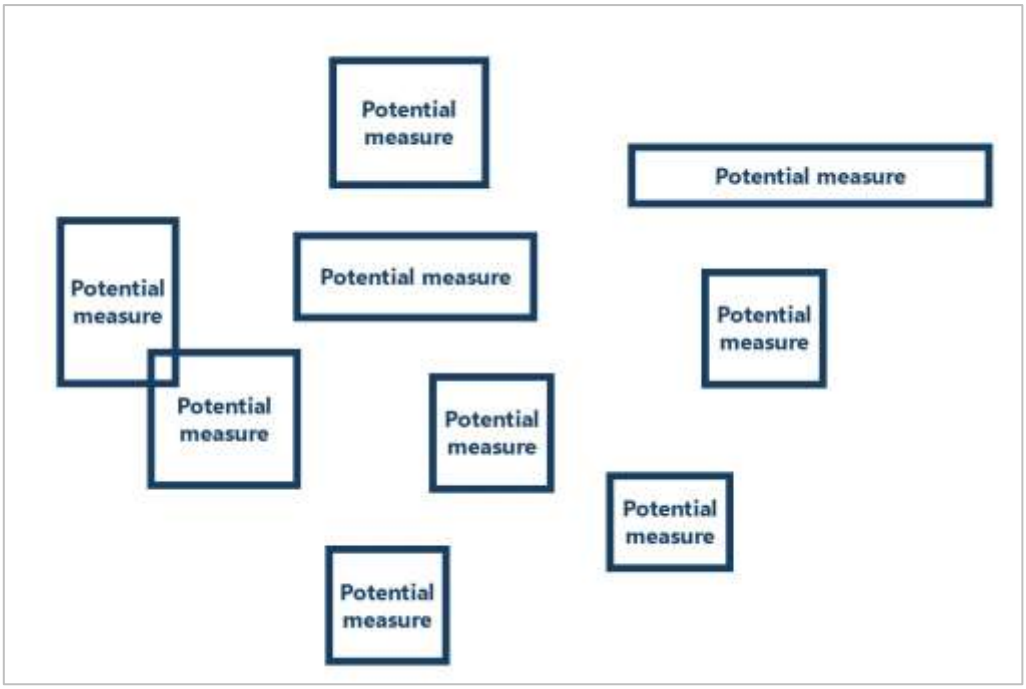
- National conservation sites.
- Local nature reserves.
- Local wildlife sites.
- Areas of irreplaceable habitat – for the purposes of this mapping, areas of irreplaceable habitat were defined as those included in the Biodiversity Net Gain irreplaceable habitats list, namely: Ancient woodland; Ancient and veteran trees; Blanket bog; Limestone pavements; Coastal sand dunes; Spartina saltmarsh swards; Mediterranean saltmarsh scrub; Lowland fens.



5.6.2 Areas that could become of particular importance for biodiversity

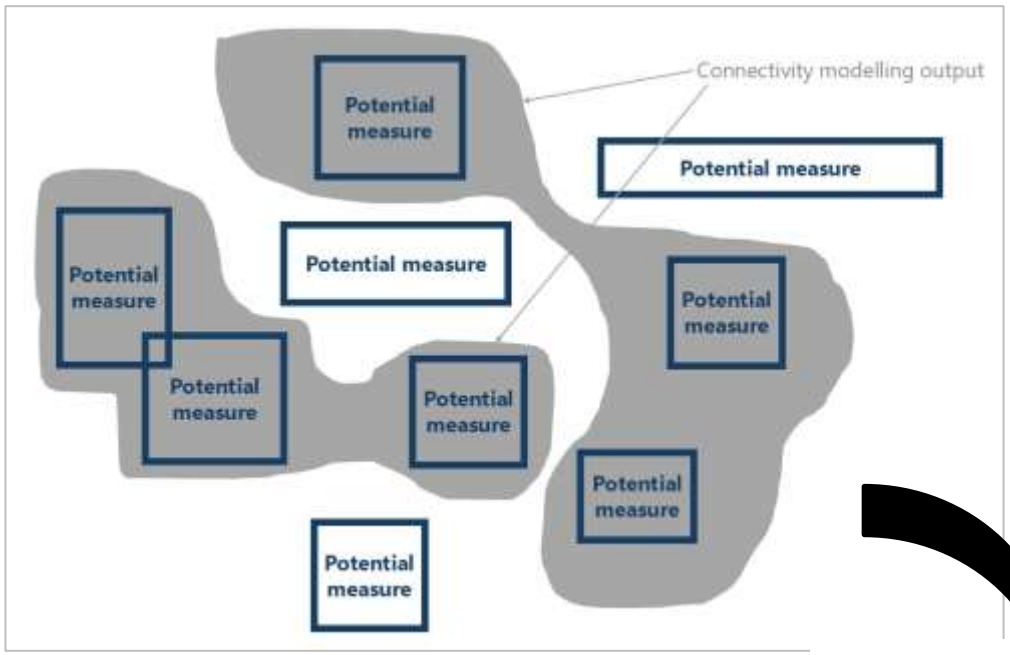
Areas that Could become of particular Importance for Biodiversity are where the Strategy proposes effort should be concentrated to restore habitat, to achieve the greatest gains for nature and derive the greatest benefits from a healthy, functioning environment. They are the areas of Kent and Medway where targeted action will enable us to deliver on the priorities laid out by the Strategy.

The first stage in mapping the Areas that Could become of particular Importance for Biodiversity was the mapping of the potential measures.

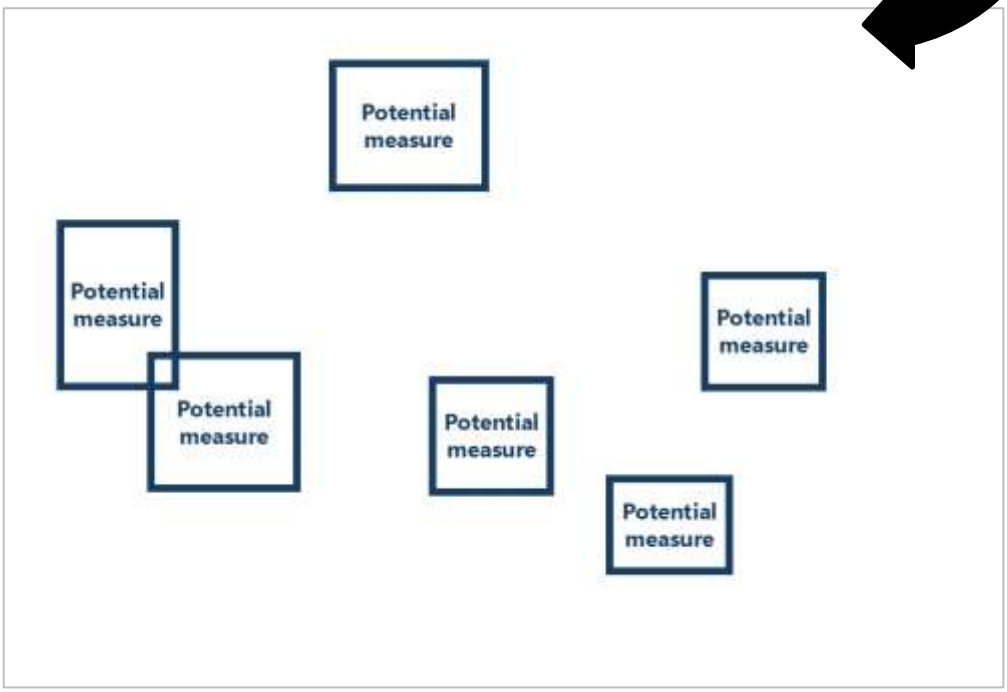


However, despite best efforts to focus the mapping of potential measures, the resulting draft Areas that Could become of particular Importance for Biodiversity were considered to have too broad a coverage to satisfy the purpose of the Strategy's spatial element – that being to effectively and efficiently target available resources.

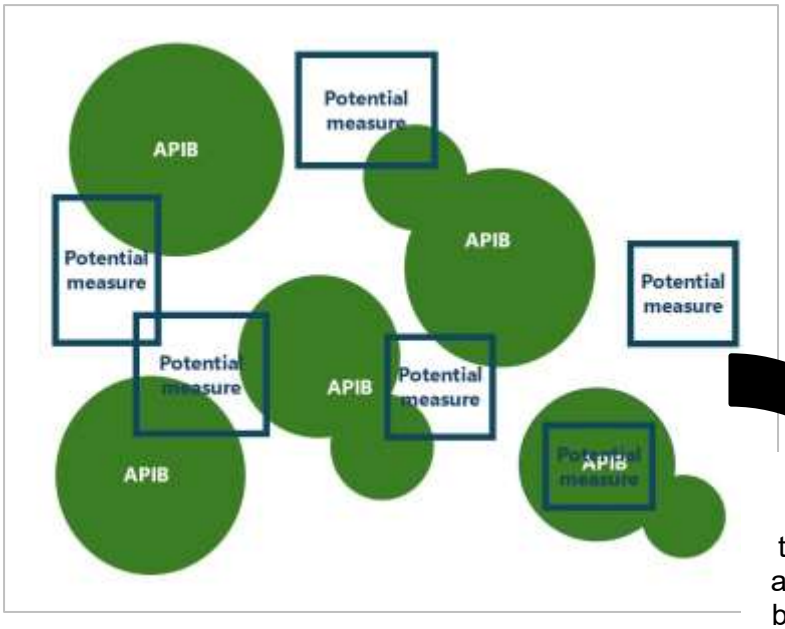
To address this, connectivity modelling was used to refine and target action further, with priority given to potential measures located in areas of low species flow and connectivity bottlenecks and where action would provide buffering/linking of existing Areas of Particular Importance for Biodiversity. The rationale for this approach being that a more "joined up", connected landscape was the ultimate ambition of the Strategy, if the applied Lawton principles are considered a hierarchy of going from better to joined up.



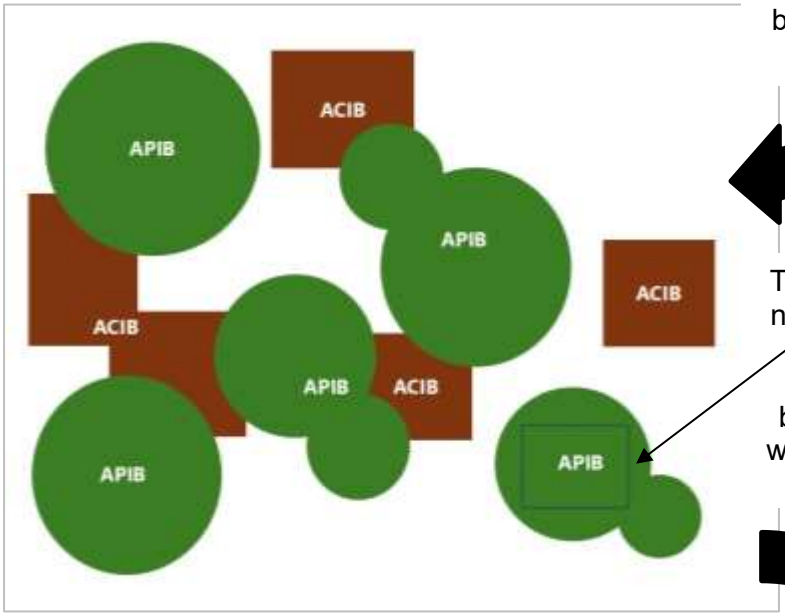
Refined potential measures mapping, retaining only those located in connectivity modelled target areas.



To create the Areas that Could become of particular Importance to Biodiversity, the refined potential measures mapping was laid over the Areas of Particular Importance for Biodiversity to identify where the Areas that Could become of particular Importance to Biodiversity could not be situated, given that the areas of existing importance cannot overlap with the areas of opportunity.



By cutting the area of the mapped potential measure so that it does not overlap with the areas of particular importance to biodiversity, the areas that could become of particular importance of biodiversity are defined.



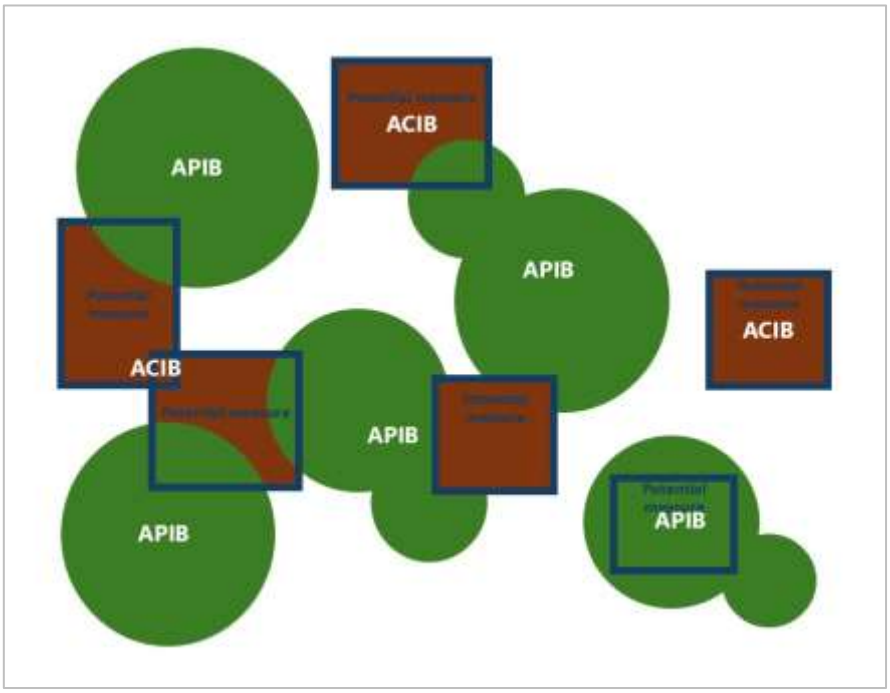
This potential measures will not be mapped to the areas that could become of particular importance because it completely falls within the areas of particular importance.

The resulting mapping layer denoting areas that could become of particular importance of biodiversity.

5.6.3 The Local Habitat Map

The Local Habitat Map brings all these mapping components together and presents:

- Location and extent of Areas identified as of Particular Importance for Biodiversity (in the illustration below, in green).
- Locations where potential measures have been proposed (in the illustration below, in blue outline).
- Location and extent of Areas identified that Could become of particular Importance for Biodiversity (in the illustration below, in brown).



5.7 Identifying the Strategy's priority species

5.7.1 Creating the Local Nature Recovery Strategy species longlist

To identify the county's priority species, a long list of species was first compiled. Species in the long list were selected against Natural England criteria, designed to enable Local Nature Recovery Strategies to contribute to the national species extinction risk targets of:

- Halt the decline in species abundance by the end of 2030.
- Increase species abundance by the end of 2042 so that is greater than in 2022 and at least 10% greater than in 2030.
- Reduce the risk of species' extinction by 2042, when compared to the risk of species' extinction in 2022.

As such, species which met the following criteria were to be included on the species longlist:

- Any native species which have been assessed as Red List Threatened or Near Threatened against IUCN criteria, at a Great Britain scale.
- Any native species which have not been formally assessed against IUCN Red List criteria but where strong evidence is provided to show that they would meet the criteria for Threatened status in Great Britain.
- Any native species considered to be nationally extinct that re-establish themselves or are rediscovered.
- Any native species which Natural England suggest as suitable candidates for conservation translocation, or any native species already subject to translocation efforts that, on Natural England's advice, need to be scaled up to maximise success.
- Other species of local significance which have not yet been Red List assessed or lack approved Red Lists but for which there is strong evidence to show – or in the absence of this, authoritative expert opinion – that they would meet criteria for Threatened status.

The Natural England guidance notes that there are roughly 2,000 species in England which meet these criteria. When species present in Kent were assessed and other species of local significance added, there were 1,503 species in the long list, demonstrating the value of Kent and Medway to supporting rare, threatened and significant species.

5.7.2 Identifying the Local Nature Recovery Strategy priority species

The Kent and Medway Local Nature Recovery Strategy priority species were identified by a technical advisory group, comprising over 37 of the county's species specialists, including county recorders. The work was led by the Kent and Medway Biological Records Centre.

In the first instance, the long list was assessed to determine which of the species the Local Nature Recovery Strategy could best support. Species fell into three categories:

1. Requires better, bigger, more or connected habitat but did not require specific or targeted recovery measures.
2. Requires specific and targeted habitat management, improvements in environmental quality and/or bespoke conservation actions.
3. Requires better evidence/understanding before necessary action can be determined, action outside England and/or is a vagrant or occasional visitor.

Those in category one were considered to be species that would benefit from the overall delivery of the Strategy's principles and did not require specific habitat measures – 466 species from the longlist were assessed to fall into this category. Those in category three were considered to fall outside the scope of the Strategy's influence at this point in time – 161 species from the longlist were assessed to fall into this category. Therefore, only species which fell into category two (444 species

from the long list) were assessed by the final selection criteria to create a short list of potential priority species. The selection criteria were:

- Urgency of recovery requirements.
- Significance of strategy area nationally and internationally to the conservation of the species.
- Scale of effort required.
- Associated benefits to other wildlife and wider environment.
- Vulnerability to climate change.
- Species needs support tracking or adapting to changing climate.
- Ability to build on existing local, regional and/or national initiatives.
- Local expertise knowledge of other reasons outside above criteria that qualifies species for shortlisting as potential priority species.

The species shortlist was then considered in depth by the species technical advisory group to nominate priority species. This stage of the work included further scrutiny and input via a dedicated workshop, attended by additional species experts and delivery partners. Priority species were selected from the shortlist in consideration of the habitats they were associated with, and which species would deliver action that would have broader impact than just for that individual species alone.

5.7.3 Presentation of the Kent and Medway priority species

The non-statutory guidance on priority species for a Local Nature Recovery Strategy recommends that only species that require bespoke measures are identified and that these bespoke measures are presented alongside the relevant species. However, acknowledging that many of the habitat measures designed for the benefit of a priority species offer wider benefits to other species of that habitat assemblage, it was determined that these should be embedded into the habitat potential measures.

Consequently, a number of the Kent and Medway priority species, whilst meeting the criteria as a priority, seemingly do not have dedicated potential measures – these are noted in this chapter as priority species requiring broad habitat measures, and the relevant habitat priority is identified alongside these. Where a species requires a bespoke measure that will only benefit that particular species, these are noted in this chapter as priority species requiring bespoke measures – the bespoke measures for the priority species are provided in Appendix 3.1.

5.7.4 Mapping potential measures for the Kent and Medway priority species

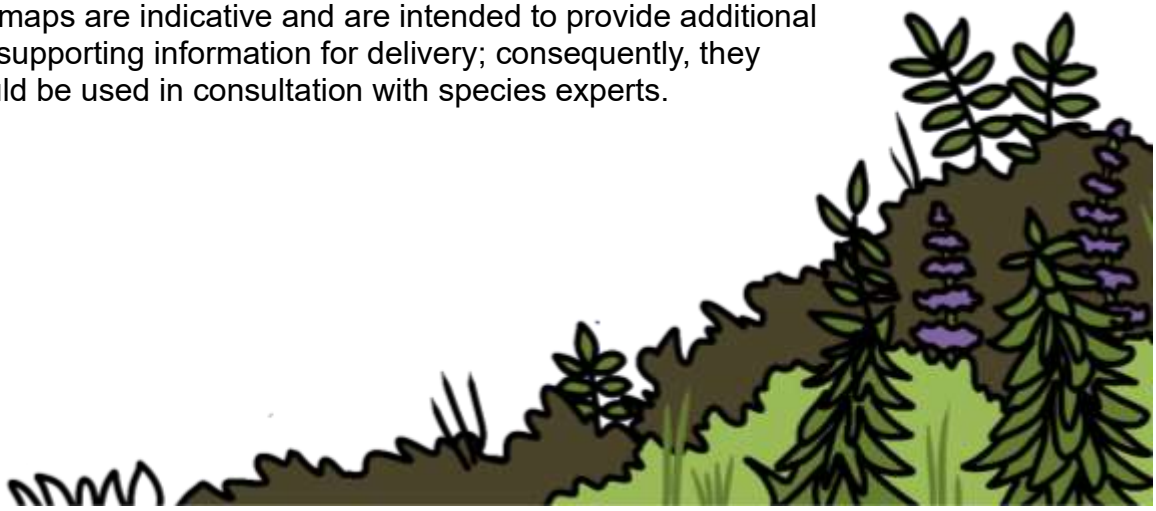
Mapping of potential measures for the Strategy's priority species has not been developed, due to the complex nature of the bespoke action required.

To aid locating where action could be taken, priority species heat maps were developed for the following habitat assemblages:

Strategy habitat group	**Priority species habitat assemblage maps**
Grassland habitats	- Arable. - Chalk grassland. - Coastal and floodplain grazing marsh. - Heathland. - Lowland meadows.
Successional habitats	- Scrub and open mosaic habitat on previously developed land (brownfield).
Woodland, trees and hedgerows	- Woodlands. - Ancient woodland, wood pasture and parkland and traditional orchard.
Freshwater	- Rivers and streams. - Standing open water. - Swamp, reedbed and wet woodland.
Urban	- Urban.
Coastal	- Littoral sediment. - Maritime cliff and slope. - Sand dunes and vegetated shingle.

The maps have been created based on a heat map of priority species density for the habitat assemblage, enhanced with modelling to predict species density in areas that are unrecorded. The initial maps were reviewed and refined with the county's species experts.

The maps identify the areas considered to offer the most benefits for priority species, using the density of priority species for that habitat assemblage as a proxy. The maps are indicative and are intended to provide additional and supporting information for delivery; consequently, they should be used in consultation with species experts.



Part 2

Strategy Area Description

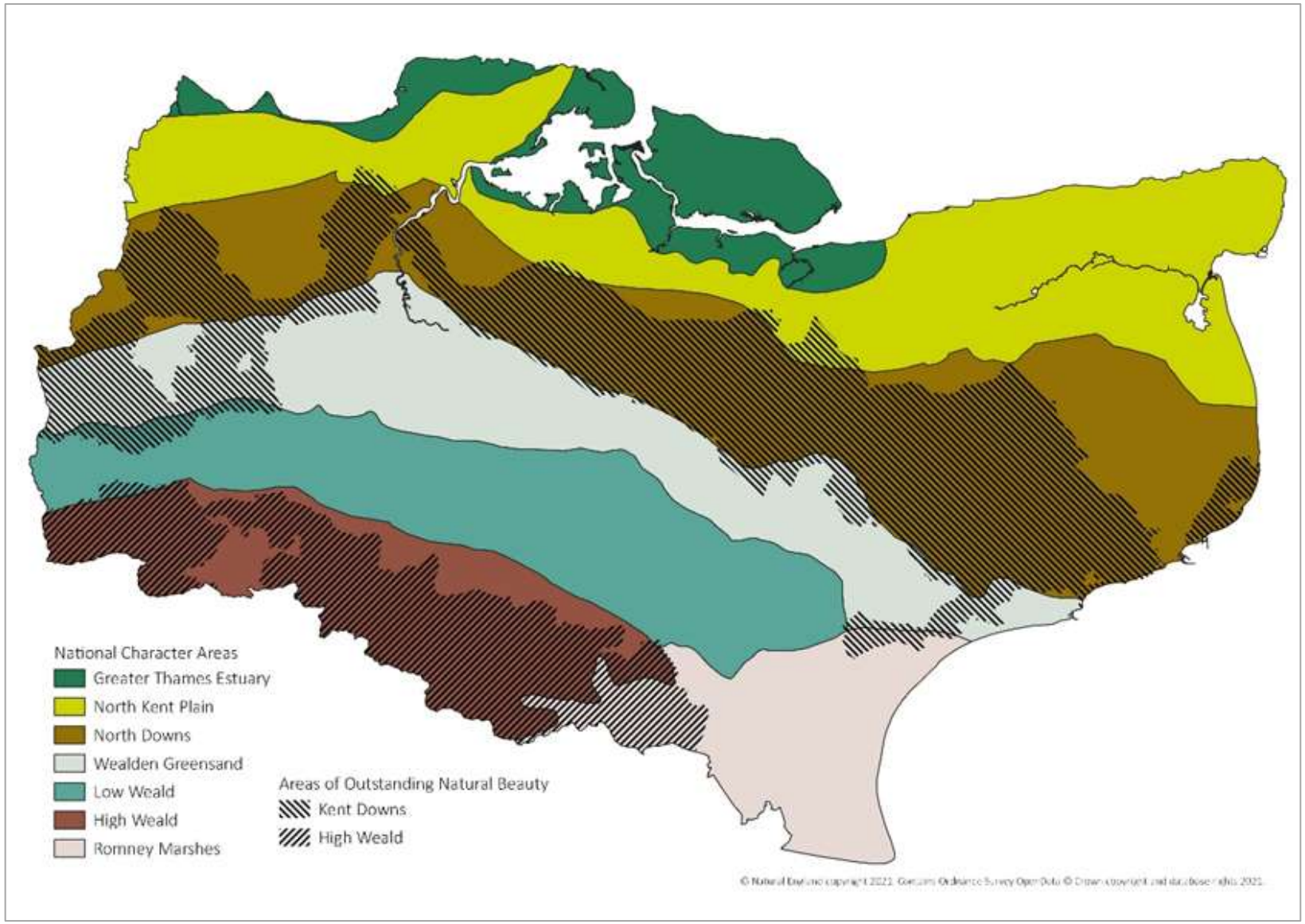
1. Kent and Medway's Natural Landscape

When looking at an area on a large scale, and for the purposes of nature recovery, it is important to look at natural and functional areas, rather than those defined by administrative boundaries.

The National Character Areas provide a means of considering the area at a strategic scale. These follow natural lines in the landscape, defined by a unique and shared combination of landscape, biodiversity, geodiversity, history, cultural and economic activity. The Kent and Medway Strategy area has seven distinct national character areas (NCA):

- Greater Thames Estuary (NCA81)
- North Kent Plain (NCA113)
- North Downs (NCA119)
- Wealden Greensand (NCA120)
- Low Weald (NCA 121)
- High Weald (NCA122)
- Romney Marshes (NCA123)

The Strategy area also includes two National Landscapes (formerly known as Areas of Outstanding Natural Beauty) – the Kent Downs and the High Weald.



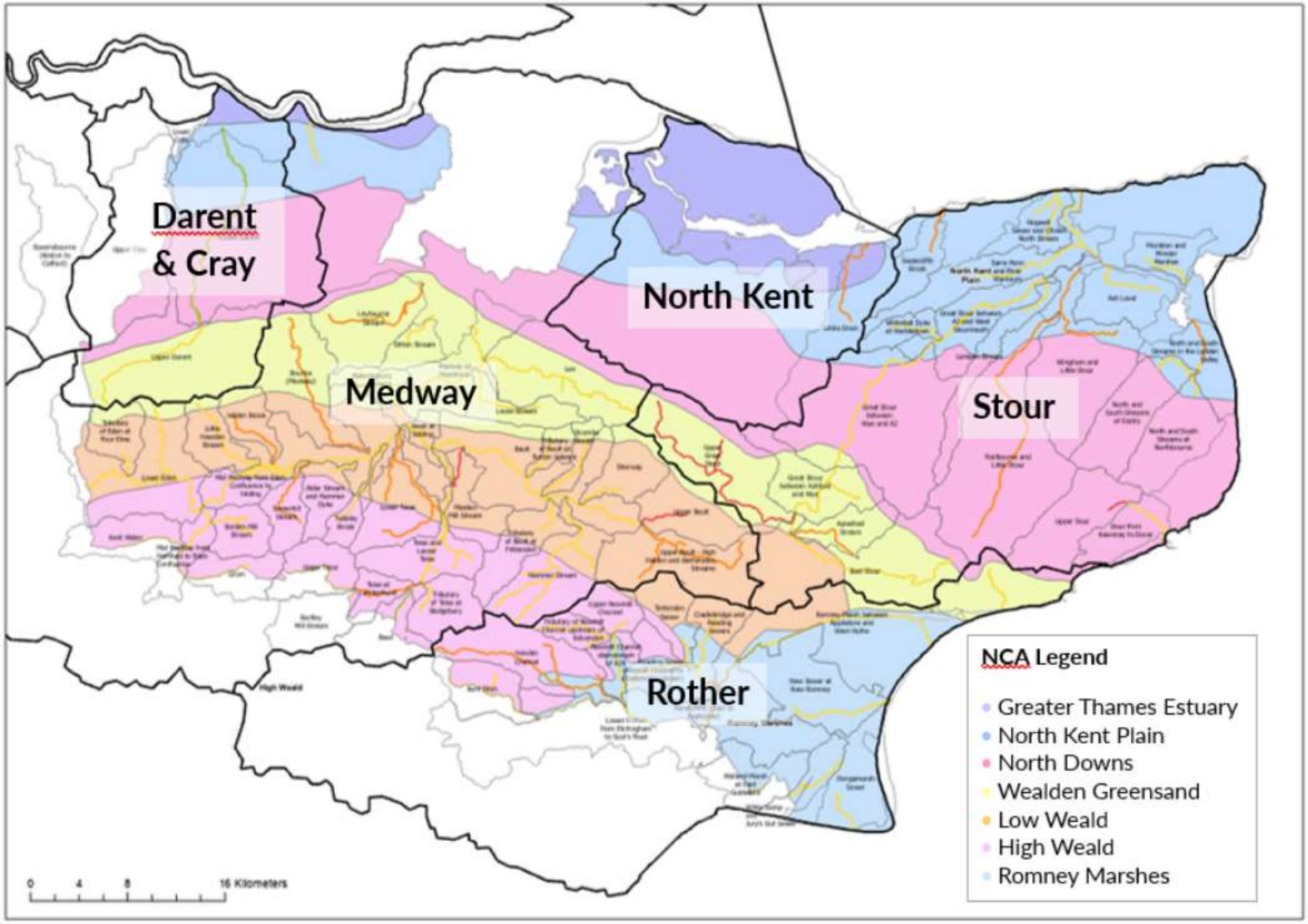
The National Character Areas of Kent and Medway and the county's National Landscapes.

Another way of considering the areas of the county, in terms of functional landscapes, is on a catchment basis. A river catchment is a natural drainage basin, collecting water from various sources channelling this water into a low point, eventually merging into the main river. Everything within a catchment is linked and reliant on each other. Within a catchment there will be areas providing natural flood management, water provision for agriculture and wildlife dependent on the associated food chains, to name but a few ways water may provide a service. For rivers and their connected habitats to be healthy, both need to be healthy.

The county has five catchments (not all exist solely within the borders of Kent and Medway):

- North Kent catchment
- River Stour catchment
- River Medway Catchment
- River Darent and Cray catchment
- River Rother catchment

For the purposes of this introduction to the Strategy area, the description is framed around the National Character Area descriptions, supplemented with further detail on the catchment.



The River Catchment Areas of Kent and Medway.

1.1 Greater Thames Estuary NCA

Predominantly a remote and tranquil landscape of shallow creeks, drowned estuaries, low-lying islands, mudflats and broad tracts of tidal saltmarsh and reclaimed grazing marsh that lies between the North Sea and the rising ground inland. It forms the eastern edge of the London Basin and encompasses the coastlines of South Essex and North Kent, along with a narrow strip of land following the path of the Thames into East London.

Despite its close proximity to London, the Greater Thames Estuary NCA contains some of the least settled areas of the English coast, with few major settlements and medieval patterns of small villages and hamlets on higher ground and the marsh edges. This provides a stark contrast to the busy urban and industrial areas towards London, where population density is high, and development pressures are increasing. Sea defences protect large areas of both reclaimed grazing marsh and its associated ancient fleet and ditch systems, and productive arable farmland. Historic military landmarks are characteristic features of the coastal landscape.

The coastal habitats of the Greater Thames Estuary NCA are internationally important for their biodiversity interest, and support large numbers of overwintering and breeding wetland birds, rare plant and invertebrate species, and diverse marine wildlife. The coastline of the NCA also includes a stretch of the King Charles III England Coast Path.

The vast majority of the coastline and estuaries are designated as Ramsar sites and Special Protection Areas. Brownfield sites support priority open mosaic habitat and its associated nationally-rare invertebrate species. The coastline is also of major geomorphological interest for the study of estuarine and coastal processes, and for its nationally and internationally important deposits of London Clay fossils and Pleistocene sediments.

There is a marked contrast between the wild and remote coastal marshes, and the industrial and urban developments which are highly visible in the low-lying landscape. A key challenge is to accommodate increasing development pressure in the area, with the protection and enhancement of the natural landscape and its internationally important coastal habitats and species, and nationally important open mosaic habitat.

1.2 North Kent Plain NCA

The strip of land between the Thames Estuary to the north and the chalk of the Kent Downs to the south. The area is open, low, and gently undulating. It is a very productive agricultural area with predominantly high-quality, fertile loam soils, characterised by arable use. Traditional orchards, soft fruits and other horticultural crops exist in central and eastern areas, giving rise to the use of the title ‘Garden of England’.

There is an extensive area of ancient woodland around Blean, designated a Special Area of Conservation (SAC) for sub-Atlantic and medio-European oak or oak-hornbeam forests. This is one of the largest complexes of ancient semi-natural woodland in England and the largest area of continuous woodland in Kent. Wooded heath and grassland also form a significant part of the Blean complex. The woodlands in the west of the NCA provide important areas of green space and are key sites for biodiversity. They include Chattenden Woods, Shorne and Ashenbank Woods, Great Crabbles Wood, Darenth Wood, Northward Hill, and Crofton Woods. Part of this area makes up the North Kent Woods and Downs National Nature Reserve, designated as such in 2025. The east of the NCA is characterised by poplar and alder shelterbelts and small woodlands.

However, the majority of the NCA is an open landscape: characteristic shelterbelts occur within the fruit-growing areas, but the agricultural land is mostly devoid of hedgerows. There are also fragments of neutral, calcareous and acid grassland, and also heathland, including Dartford Heath.

The North Kent Plain NCA meets the sea between Whitstable and Deal, changing from a north-facing to an east- or south-facing shore. There is a great diversity of coastal habitats, including chalk cliffs and reefs around Thanet, and soft cliffs between Herne Bay and Reculver and also at Pegwell Bay. Thanet Coast and Sandwich Bay are both designated as Special Areas of Conservation (SAC) and as Ramsar sites, the latter reflecting the mudflat invertebrates and internationally important numbers of wading birds they support. There are also areas of intertidal sand and mud, salt marshes (especially at Pegwell Bay), sand dunes (notably Sandwich Bay), shingle beaches (at Minnis Bay and near Deal), brackish lagoons and maritime grasslands on cliff-tops and sea walls.

The North Kent Plain NCA has a strong urban element, with a large number of built-up areas and coastal towns. Developments around London and the Medway towns, in particular, have contributed to significant urbanisation in the west of the NCA.

This NCA is important for food production and associated services (such as soil and water regulation and management) that help to protect the area's natural assets. In addition, flood protection is an important consideration along the rivers and coastline.

To the north is the alluvial Greater Thames Estuary. The area's western boundary is defined by Inner London and the Thames Basin Lowlands.

The North Kent Plain area is characterized by tidal waterbodies and marshy estuarine habitats, many of which include artificial or heavily modified watercourses. It includes the lower and tidal reaches of the Darent and Lower Medway, the network known as the Stour Marshes, plus the White Drain. It also includes the Isle of Thanet chalk groundwater body.

There are some rivers not designated as artificial or heavily modified, which include the Whitehall Dyke, a stretch of the Great Stour between Wye and the A2, Lampen Stream, Wingham, lower part of the Little Stour, and Swalecliffe Brook. Also, the Darent, of which the lowest section flows through North Kent Plain area.

1.3 North Downs NCA

A chain of chalk hills that extend from the Hog's Back in Surrey and end dramatically at the internationally renowned White Cliffs of Dover. The settlement pattern is characterised by traditional small, nucleated villages, scattered farms and large houses with timber framing, flint walls and Wealden brick detailing. Twisting sunken lanes, often aligned along ancient drove roads, cut across the scarp and are a feature of much of the dip slope.

The Kent Downs National Landscape (formerly Area of Outstanding Natural Beauty) designation is testament to the scenic qualities and natural beauty of the area.

Agriculture is an important component of the landscape, with variation in soils supporting mixed farming practices where arable, livestock and horticulture have co-existed for centuries. The woodlands, many of which are ancient, are a prominent feature of the landscape, yet their ecological value has suffered in recent years due to a reduction in active management since the 1990s, particularly of mixed coppice. Two Special Areas of Conservation (SAC) are designated for their rare woodland compositions. Chalk grassland is particularly notable, with seven SAC designated for chalk grassland interest including outstanding assemblages of rare orchids. The chalk downland habitats support rare species, including the Late Spider Orchid, the Black-Veined Moth and Straw Belle Moth, which are currently found only within the North Downs.

The North Downs are cut by the valleys of the Stour, Medway and Darent, with their associated wetland habitats. The chalk aquifer of the North Downs is important for supplying water within Kent. The coast is of international significance with an SAC designation due to the presence of rare maritime cliff communities found within the cliff face and on cliff-tops. Two stretches of the coast are recognised as Heritage Coast: South Foreland, and Dover to Folkestone. An outstanding range of historical and geological features are found along the coast, including Dover Castle and the White Cliffs with their strong cultural associations. Other historical features, including numerous Scheduled Ancient Monuments and buildings dating from the medieval period, are scattered throughout. The Heritage Coast includes a stretch of the King Charles III England Coast Path. Also within this NCA is another National Trail, the

North Downs Way, which runs through the heart of the NCA, from Dover and Folkestone in the east and extending west into Surrey.

In the east, Dover is the main settlement, but the Medway towns of Rochester and Chatham and the town of Folkestone also lie on the periphery of the NCA. Other towns, including Maidstone, Ashford and Sevenoaks, and the city of Canterbury, although within adjacent NCAs, lie close to the boundary.

Views from the eastern scarp are dominated by generally undeveloped landscapes much valued by visitors, with outstanding views from many parts of the downs to France. These views are affected to varying degrees by the Channel Tunnel terminal development and the M25 and M20 corridors.

The North Downs NCA includes all of Kent's chalk streams, namely the Nailbourne and Little Stour, Dour, North and South Streams in the Stour Catchment, the Great Stour below Wye, and the Middle and Lower Darent.

These rivers are typically characterized by their stable flow conditions, clear water and the associated vegetation communities as well as supporting trout and salmon populations, although all are impacted by a range of pressures. The Great Stour and Darent are the only rivers not classified as modified, with the former also classed as a Local Wildlife Site. The Upper Dour includes some reaches identified as Priority River Habitat by Natural England, due to their naturalness.

1.4 Wealden Greensand NCA

The long, curved belt of the Wealden Greensand runs across Kent, parallel to the North Downs, and on through Surrey. Around a quarter of the total NCA is made up of extensive belts of woodland – both ancient mixed woods and more recent conifer plantations. In contrast, the area also features more open areas of heath on acidic soils, river valleys and mixed farming, including areas of fruit growing.

The area has outstanding landscape, geological, historical and biodiversity interest. Some 51 percent of the total NCA is covered by landscape designation, including the Kent Downs National Landscape. The underlying geology has shaped the scarp-and-dip slope topography, with its far-reaching views, but it has also had a significant bearing on the area's sense of place: there are clear links between vernacular architecture, industry and local geology. The heritage assets provide vital connections to the NCA's industrial, military and cultural history, and include distinctive deer parks and more recent 18th-century parklands.

Biodiversity interests are represented by internationally and nationally designated sites alongside numerous local sites and other non-designated semi-natural habitats. The internationally designated sites include three Special Protection Areas (SPAs), two Ramsar sites and eight Special Areas of Conservation (SAC), representing the outstanding value and quality of the heathland, woodland, wetland and coastal habitats found within the Wealden Greensand NCA. In addition, fragments of acid grassland and parkland landscapes add to the overall diversity of habitats.

The Kent area of the NCA is considerably more urbanised than the south-western part, with many towns including Maidstone, Ashford and Folkestone. The area forms a major transport corridor, with the M25, M20 and M26 motorways and other major road and rail routes all running through it.

A short coastal stretch extends from Folkestone to Hythe, with a heavily developed hinterland: as a result, most of the coastline is protected by coastal defences. The exception is Copt Point, where the eroding cliffs are designated for their wildlife and geological interest. This part of the coastline is also part of the defined Dover–Folkestone Heritage Coast. The coastline offers a contrasting recreational experience from that associated with the heathlands, wetlands and woodlands of the wider NCA.

The curved Greensand ridge partially encircles the adjoining Low Weald NCA. The Kent Lower Greensand groundwater body is considered a major aquifer, important for public and industrial water supply both within and outside the Wealden Greensand NCA. The management of the coastal stretch between Folkestone and Hythe influences, and is influenced by, the coastal stretches in adjoining North Downs and Romney Marsh NCAs. The coastline of the NCA also includes a stretch of the King Charles III England Coast Path.

The Wealden Greensand NCA follows the outcrop of Upper and Lower Greensand, which curves around the western end of the Wealden anticline in West Sussex, east Hampshire and Surrey and forms a conspicuous ridge running west to east across Surrey and Kent terminating in coastal cliffs at Folkestone Warren.

The long, curved belt of the Wealden Greensand runs across Kent, parallel to the North Downs, and on through Surrey. It moves south, alongside the Hampshire Downs, before curving back eastwards to run parallel with the South Downs in West Sussex. The NCA features parts of the South Downs National Park and Surrey Hills Protected Landscape.

The Wealden Greensand gives rise to headwaters for several catchments, including the Upper Darent, the upper section of the Bourne in the Medway Catchment, the Leybourne Stream, Loose Stream, Wateringbury Stream, Ditton Stream and Len (also a chalk stream) as well as the main river Medway at Maidstone.

It also feeds the headwater springs supporting the River Beult. The upper reaches of the Stour also rise from this NCA, with the Upper Great Stour, East Stour, Aylesford Stream and the Great Stour from Ashford to Wye entirely in this area. The waterbodies of the Stour catchment are not designated as modified within this NCA, and neither are the Bourne or Upper Darent, but all other waterbodies in the Medway catchment in this NCA are designated heavily modified.

1.5 Low Weald NCA

A broad, low-lying clay vale which largely wraps around the northern, western, and southern edges of the High Weald. It is predominantly agricultural, supporting mainly pastoral farming owing to heavy clay soils, with horticulture and some arable

on lighter soils in the east, and has many densely wooded areas with a high proportion of ancient woodland. At the western end, a small amount falls within the adjacent designated National Landscapes of the Kent Downs and High Weald Areas.

The area is generally wet and woody. It is dissected by flood plains and its impermeable clay soil and low-lying nature make many areas prone to localised flooding. Ponds are common, often a legacy of iron and brick-making industries. Gill woodland is a particular feature and a valuable habitat, scarce elsewhere in the south-east of England. Despite its proximity to London and continuing pressure for development, the Low Weald remains essentially rural in character with small-scale villages nestled in woodland and many traditional farm buildings, including oast houses.

It is important for biodiversity, being rated among the most important NCAs for richness of bat species, Bullfinch and Lesser-spotted Woodpecker, and several plants, including Spiked Rampion, plus a variety of rare lichens. It also supports rare invertebrates, notably woodland butterflies.

The NCA is bounded for much of its length by the Wealden Greensand NCA in the north, crossing the counties of Kent, East and West Sussex and Surrey. It includes areas of the Surrey Hills and High Weald Protected Landscapes, plus South Downs National Park. Like the High Weald, the Low Weald is densely wooded, especially in its western arc through West Sussex and Surrey.

Rivers in the Low Weald NCA are almost entirely part of the Medway catchment and include the River Beult, the only riverine SSSI in Kent and designated for its clay river characteristics.

The Beult tributaries include the Ulcombe Stream, Sherway, Upper Beult and lower reaches of the Hammer Stream. All of these are classified as heavily modified, except for the Upper Beult which is deemed natural (including a section identified by Natural England as priority habitat).

1.6 High Weald NCA

Encompasses the ridged and faulted sandstone core of the Kent and Sussex Weald. It is an area of ancient countryside and one of the best surviving medieval landscapes in northern Europe. The High Weald National Landscape covers the majority of this NCA in Kent. The High Weald consists of a mixture of fields, small woodlands and farmsteads connected by historic routeways, tracks and paths. Wildflower meadows are now rare but prominent medieval patterns of small pasture fields enclosed by thick hedgerows and shaws (narrow woodlands) remain fundamental to the character of the landscape.

In total, some 26 percent of the NCA is covered by woodland, comprising wooded shaws, pits and gills, farm woods and larger woods; of this 26 percent, 17 percent is ancient semi-natural woodland and 5 per cent is ancient, replanted woodland. The majority of the woodland cover is ancient, managed in the past as coppice with standards surrounded with native woodland flora such as Bluebells and Wood Anemones in the spring. Evidence of the area's industrial past is prominent, from the large iron-master houses to iron industry charcoal hearths, pits and hammer ponds found throughout the ancient woodlands.

The small scale and historical patterning of the landscape, interwoven woodland, wetland and open habitats, with many hedgerows and historic routeways supporting semi-natural vegetation, provide a flourishing, accessible landscape for wildlife. Exposed sandstone outcrops along the wooded gills provide nationally rare habitat and support an array of ferns, bryophytes and lichens. The numerous gill streams of the High Weald give rise to the headwaters and upper reaches of rivers which were previously important trade routes for timber, iron and wool out to the coastal ports around Walland Marsh.

In total, the NCA is home to 56 historic parks and gardens covering 4,599 ha. The High Weald provides an example of one of the best-preserved medieval landscapes in north-west Europe and has a strong sense of history. This is enhanced by many features, numerous churches and chapels and an abundance of locally distinctive traditional buildings.

The High Weald provides many services to communities living within the area's towns and villages and adjacent urban populations through the supply of drinking water, flood mitigation and carbon storage and a range of open-air recreational activities based around its distinctive character, from walking its ancient routeways to off-road cycling in Bedgebury Forest and water sports at Bewl Water.

The wooded nature of linear routes throughout this and the Low Weald NCA, together with the wooded gills, provides a high degree of interconnectivity to ancient woodland habitats across the High and Low Weald areas. Gill streams are found in this NCA, which support a specific flora associated with temperate rainforests.

The High Weald and Romney Marsh NCAs are inextricably linked in terms of water resources. The High Weald NCA encompasses some of the same catchments as the Low Weald NCA, and in many cases gives rise to the headwaters of streams which then move down into the Low Weald.

The majority of priority river habitat in Kent, as identified by Natural England, is found in this NCA, predominantly in the form of headwater streams.

It includes part of the Lower Eden, the Mid Medway above the Eden confluence, Barden Mill Stream, Somerhill Stream, upper parts of the Alder Stream and Hammer Dyke, Tudeley Brook and Lower Teise, the Teise and Lesser Teise, Upper Teise, Teise at Lamberhurst and Teise at Bedgebury, the upper sections of the tributaries of the Beult at Frittenden and Hammer Stream.

In the Rother catchment, it includes sections of the Kent Ditch, Upper Newmill Channel and tributary of Newmill Channel, Hexden Channel.

1.7 Romney Marshes NCA

An open landscape of reclaimed, low-lying marshland. The area is bounded to the south and east by the English Channel, and to the north and west by the clearly recognisable ancient cliff-line, which now forms the backdrop to the marshes. It includes the vast sand and shingle beaches and flat marshland between Hythe in Kent and Pett in Sussex. This unique and sometimes forbidding area has a character all of its own and contains a wealth of wildlife and geomorphological features.

Dungeness is an area of international importance for its geomorphology, plants, invertebrates and birds. Home to some of the UK's rarest species, it is designated as a National Nature Reserve, Special Area of Conservation, Special Protection Area and Site of Special Scientific Interest, as well as being a proposed Ramsar site. Dungeness (with Rye Harbour) comprise the largest cuspate shingle foreland in Europe, one of the few such large examples in the world.

Scattered settlements are linked by long, straight, open roads and have a distinctive architectural character, including weatherboarding and hung tiles; many have medieval churches at their core. Urban areas account for a small proportion of this rural NCA. The transport links are sparse, and this, coupled with the nature of the landscape, rural isolation and lack of employment, means that the area suffers from issues of social and economic deprivation. The coastline of the NCA also includes a stretch of the King Charles III England Coast Path.

The extensive marshes of the hinterland, now a mixture of arable and grazing land dissected by an extensive network of ditches and watercourses, support a rich flora and fauna and form a striking contrast to the coastal habitats of sandy and shingle beaches, freshwater pits, sand dunes, saline lagoons and flooded gravel pits. The open water network is a vital component of the marshes' irrigation and drainage network.

Areas of the Romney Marsh NCA are designated at National Landscape (Kent Downs and High Weald). These form distinct areas within the NCA which, radiating from the core of the marsh, act as corridors out into the adjoining High Weald NCA and have a unique character. They have a key role to play in connectivity of habitats and linkages to the wider marshland landscape.

The coast continues to evolve; pressures of sea-level rise and climate change will result in coastal change, and informed decision-making will be critical in helping coastal communities and habitats to adapt to change. Much of the area is well below the high-tide level and, as such, is at risk of flooding.

Human land-use has had a major role in fashioning the present landscape, through the drainage of marshes, military activity, gravel digging and the construction of sea walls, housing, tourist amenities, roads, a wind farm, an airport and Dungeness Power Station.

The High Weald and Romney Marshes NCAs are inextricably linked in terms of water resources. The Royal Military Canal is predominantly within this NCA but passes through into Wealden Greensand – it provides a continuous corridor linking the two NCAs.

The Romney Marsh NCA encompasses the eastern part of the Romney Marshes catchment, a highly managed environment with recreational use of watercourses. Waterbodies include Romney Marsh between Appledore and West Hythe, the New Sewer, Dengemarsh Sewer, White Kemp and Jury's Gut Sewer, Walland Marsh, Lower Rother, Cradlebridge and Reading Sewer, Newmill Channel, Hexden Channel, and Reading Sewer.

Some of the streams in this NCA arise in the Low Weald or High Weald NCA.

2. Protected areas of Kent and Medway

2.1 Kent Downs National Landscape

The Kent Downs National Landscape stretches from the White Cliffs of Dover to the Surrey London border. It offers dramatic views, vibrant communities, a rich historic and cultural heritage and diverse wildlife and habitats making it a worthy landscape for national protection.

It is the eighth largest National Landscape and covers 23% of Kent's land area providing a wealth of opportunities for people to explore, enjoy and benefit from this outstanding landscape.

The Kent Downs National Landscape features areas of the North Kent Plain, North Downs, Wealden Greensand, Low Weald and Romney Marshes National Character Areas. The majority of the North Downs NCA is designated as Kent Downs National Landscape.

Wildlife - The unique landscapes of the Kent Downs create and contain a rich and distinctive biodiversity, providing a home to many plants and wildlife including several species that are largely or wholly confined to the Kent Downs. Habitats found in the Kent Downs include chalk grassland, woodlands (ancient woodland, veteran trees and wood pasture), traditional orchards and Cobnut plats, chalk cliffs and the foreshore, chalk rivers and wet pasture, ponds and heathland.
Many of these habitats have become isolated making them vulnerable – and some of the plants and wildlife they support are scarce within Kent and across the UK. Farmers, landowners and conservation organisations are working to connect habitats and provide ecological corridors for wildlife to travel between.

Woodland - The Kent Downs is one of Britain's most wooded landscapes, with woodland covering over 20% of the area. It is the second largest land cover after farming and is a vital component of the natural beauty of the Kent Downs.
Almost 70% of the Kent Downs' woodlands are ancient woodland. The rich ground flora of ancient woodlands includes Bluebells, Wood Anemones, Ramsons and Yellow Archangel, and the bird song of Warblers, Nightingale and Nightjar can be heard too.

The ancient woodlands of the Kent Downs also preserve the evidence of thousands of years of human activity in earthworks, monuments and place names. Coppiced Sweet Chestnut is also frequently seen across many woodlands in the area.

Water and wetlands - Rivers, streams, springs and ditches include a great variety of habitat and landscape types and are important features of the Kent Downs. The Kent Downs is crossed by three major rivers: the Darent (chalk stream), Medway (major tidal river) and Stour (chalk stream), which carve their way through the Kent Downs landscape. Marsh land is not common because of the free-draining nature of much of the underlying rock. However marshy areas can be found at the base of the Downs, including Romney Marsh.

Geology - A large proportion of the Kent Downs is based on chalk, which leads to vibrant and colourful chalk grassland where orchids and other chalk-loving plants thrive. South-facing steep slopes of chalk and greensand, hidden dry valleys, broad and steep-sided river valleys and of course the iconic white cliffs around the Dover coast are some of the dramatic landforms to be seen. Breath-taking, long-distance panoramas are offered across the landscape

Farming - A long-established tradition of mixed farming has influenced the beauty of the Kent Downs – the pastoral scenery is a particularly valued part of the landscape. Farming covers around 64% of the National Landscape. Expansive arable fields are generally on the lower slopes, valley bottoms and plateaux tops. Locally concentrated areas of orchards, cobnut plats, hop gardens and other horticultural production are also present. Livestock – particularly sheep – can often be seen grazing grassland across the Kent Downs.

Heritage - Human activity across Kent for thousands of years has created an outstanding heritage and 'time depth' to the Kent Downs. There are the remains of Neolithic megalithic monuments, Bronze Age barrows, Iron Age hill-forts, Roman villas and towns, medieval villages focused on their churches, post-medieval stately homes with their parks and gardens, and historic defence structures from Norman times to the 20th century. Fields of varying shapes and sizes and ancient wood-banks and hedges, set within networks of droveways and sunken lanes add to the historic look and feel of Kent's rural landscape and the distinctive architecture is a reminder of Kent's lengthy history.

Access - The Kent Downs National Landscape has 1876km/1166miles of Public Rights of Way network, which is four times the density of the national average. The National Landscape incorporates the Kent stretch of the 153 mile North Downs Way and its coastline includes the King Charles III England Coast Path - both National Trails. The Kent Downs accommodates 40% of Kent's bridleways and 50% of Kent's byways on 23% of the county land area.

2.2 High Weald National Landscape

The High Weald National Landscape extends from Romney Marsh through the High Weald of Kent and into Sussex and Surrey. It is a medieval landscape of wooded, rolling hills studded with sandstone outcrops, small, irregular-shaped fields, scattered farmsteads, and ancient routeways.

The High Weald National Landscape features High Weald and Romney Marshes NCA. The majority of the High Weald NCA is designated as High Weald National Landscape.

Wildlife - The High Weald's diverse mix of interconnected habitats – many unchanged since medieval times – are home to an astonishing range of flora and fauna, which add to the unique character of the area. The High Weald's coastline is made up of shingle ridges, saline lagoons, saltmarsh, reedbed, pits and wet grassland with 3,720 different species of plants and animals. It also supports important wintering waterfowl populations. Deeply incised narrow valleys, known locally as gills, create a moist micro-climate which harbours plant populations not found elsewhere in eastern or central England, and which are hundreds of miles from other British populations. Such plants include Ivy-leaved Bellflower and Hay-scented Buckler-fern.

Woodland - Over 22.8% of the High Weald is covered by ancient woodland, in the form of a complex and interlinked mosaic of treebelts, shaws, and small or large woodland blocks. The National Landscape is also particularly important for Gill woodland, a rare habitat, scarce elsewhere in the south-east of England. The High Weald's woodlands harbour rare species such as the Dormouse, the Pearl Bordered Fritillary and the Black-headed Cardinal Beetle. Nightjars breed in the open space created when woodlands are actively worked. The ancient woodland ground flora is species-rich and includes Coralroot Bittercress, another speciality of the High Weald.

Grassland and heathland - The Weald supports 1,400ha of unimproved grassland habitat – nearly 20% of the entire resource of lowland meadow in England. Most of these meadows are scattered across the country; nowhere else is there such a concentration compared with the Weald. There are distinctive zones of open heath, remnants of the area's medieval forests, which are internationally important for their wildlife.

Water and wetlands - Gill streams are fast-flowing, are often within woodland and support a specialised range of plants and animals, particularly invertebrates and fish – including Brown Trout and Bullhead. The area has numerous ponds, many man-made – a legacy of use of the area's natural resources. The rare Great-crested Newt is found in many and they also have a rich assemblage of uncommon water beetles, the Medicinal Leech and uncommon plants such as Frogbit, Lesser Water-plantain and Tubular Water-dropwort.

Geology - The High Weald countryside gets its ridges, valleys and rolling landscape from the underlying bands of sandstone and clay. The harder sandstone forms the high land and ridges, which generally run east-west across the High Weald. The lower land between the sandstone ridges is the result of the softer clays having been

more easily eroded. The action of the elements over time has unevenly eroded these sandstones and clays to leave the steeply ridged and folded countryside that survives today.

Farming - The High Weald's rolling hills are draped with small, irregular fields – edged with ancient boundary features and often containing flower-rich grassland. This pattern of small, irregular fields grew out of the way the High Weald was settled, and is the result of the patient work of many small farmers. With their heavy clay soils and steep slopes, many High Weald fields have never been ploughed up to grow crops and have traditionally been used for rearing domestic livestock instead. Compared to many areas of Britain, the area still has a relatively high number of ancient, undisturbed, wildflower-rich hay meadows and pastures. These 'unimproved' grasslands are some of our most important habitats for wildlife conservation, supporting up to 100 kinds of grasses and wildflowers – which, in turn, support a great variety of insects and other creatures.

Heritage - The High Weald is a cultural landscape, shaped by people since prehistory to the present day. Its key landscape features were established by the 14th century, and it is considered to be one of the best surviving, coherent medieval landscapes in Northern Europe. The area held many riches for our ancestors and was an important source of raw materials: its sands and clays, stone and iron ore, woodlands and water. The radiating network of roughly north-south droving routes lives on as the area's narrow, often sunken, roads, lanes, bridleways and footpaths. The woodland pastures were gradually cleared by farmers to create the small, irregularly shaped fields that we see today. In the Medieval period, large tracts of land were set aside as hunting forests and deer parks. Remnants of these Forests still exist. The High Weald was the main iron-producing region of Britain, with industrial-scale exploitation during two periods – the Roman occupation and Tudor and early-Stuart period. The archaeological legacy of this activity can be seen throughout the area's woodlands.

Access - The High Weald National Landscape features a total of 2,570km of Public Rights of Way. More than 75% of the Public Rights of Way are historic, being present on Ordnance Survey maps from at least 1860. The National Landscape's coastline includes the King Charles III England Coast Path National Trails.

2.3 National and international designations

Sites of Special Scientific Interest (SSSI) are the finest sites for wildlife and natural features in England, supporting many characteristic, rare and endangered species, habitats and natural features. There are 287 SSSIs within the strategy area, covering 38,692ha.

Special Areas for Conservation (SACs) are designated to protect habitats and species that are important to biodiversity on a national and international scale.

Special Protection Areas (SPAs) are designated to protect areas that are important for breeding, over-wintering and migrating birds. Together these form part of the UK's national site network. There are 30 Special Areas for Conservation, covering 8,774ha and 48 Special Protection Areas, covering 45,3186ha, within the strategy area.

The area also has 68 designated Wetlands of International Importance, known as **Ramsar sites**, covering 26,249ha, most of which overlap with the SACs and SPAs.

Marine Protected Areas (MPAs) are designated area of the ocean, sea, or estuary, managed to protect and conserve marine life, habitats, and cultural or historical features. The key purpose of an MPA is to protect and recover rare, threatened and important habitats and species from damage caused by human activities. MPAs include Marine Conservation Zones and also Special Areas of Conservation and Special Protection Areas, with marine components.

Also included under MPAs are **Marine Conservation Zones** (MCZs), safeguarding rare, threatened, or nationally important marine species and habitats. There are 16 Marine Conservation Zones off the coastline of the strategy area, covering 167,166ha.

National Nature Reserves (NNRs) were established to protect some of our most important habitats, species and geology, and to provide 'outdoor laboratories' for research. There are 12 National Nature Reserves within the strategy area. This includes the recently designated (2025) North Kent Downs and Woods and Downs National Nature Reserve, part of the *King's Series of National Nature Reserves*, a selection of sites recognised for their ecological importance during the reign of King Charles III. This landscape-scale National Nature Reserve, features a range of habitats, including ancient woodlands, chalk grasslands and arable fields, all providing complex ecosystems that support rare and specialist species.

2.4 Nature sites of local significance

Local Wildlife Sites (LWSs) are proposed locally under the scrutiny of the Kent Nature Partnership, using robust, scientifically determined criteria and detailed ecological surveys. Their eventual delineation is by the relevant local planning authority. Their selection is based on the most important, distinctive and threatened species and habitats within a national, regional and local context. This makes them

some of the Strategy area's most valuable wildlife areas, totalling 476 Local Wildlife Sites covering 27,759ha.

Roadside Nature Reserves (RNRs) protect and manage road verges which contain threatened habitats or wildlife. There are over 150 such reserves along the roads of Kent, with a combined length of 89km.

There are also over **40 Local Nature Reserves (LNRs**), which are places with wildlife or geological features that are of special interest locally.

Kent has **six Important Bird Areas, four Important Plant Areas and four Important Invertebrate Areas.**

The Strategy area also features many habitats considered irreplaceable – those which take significant time to restore, recreate or replace once they are destroyed, often as a result of their age, diversity or uniqueness. In planning and Local Nature Recovery Strategy terms, these **irreplaceable habitats** are defined in Kent as ancient woodland and ancient trees, coastal sand dunes, spartina swards and lowland fens. This definition of irreplaceable habitats is currently under review and other irreplaceable habitats may be added in due course.

Extent of the strategy area's nationally designated sites, Local Wildlife Sites and Local Nature Reserves and irreplaceable habitat.

3. What makes Kent and Medway's nature so special

3.1 Habitats

Kent is one of the largest counties in England by area, covering 391,823ha. Its varied landscape has a wealth of natural features and wildlife habitats. The complex geology of the region, soils, topography and other environmental conditions, have all influenced Kent's landscape and habitats. In addition, the long coastline has a range of important, and in some cases unique, coastal and marine habitats.

Further influences on Kent's natural environment come from its location. It has a temperate climate subject to continental weather influences due to its proximity to mainland Europe, generally being drier than the UK average, with warm summers and cold spells in winter. As a result, the county can support many species uncommon elsewhere in Britain. Additionally, it has an ancient landscape history, with many of the semi-natural habitats being a product of historic land management practices, such as the grazed chalk downland of the North Downs and ancient coppice woodland that spreads across the South-East.

Many of these habitats are inherently beautiful and are integral to the attractiveness of Kent's countryside. However, they are also an important resource because they contribute to the maintenance of our environment through the provisioning (e.g. food, water and materials), regulating (e.g. flood management, pollination, temperature regulation), supporting (e.g. healthy soils, nutrient cycling) and cultural (recreation, tourism, health and wellbeing) services they deliver.

In 2012, Kent County Council completed the Kent Habitat Survey. The survey covered the entire county, analysing aerial photographs and previous survey data, and using targeted field survey to produce an up-to-date map of all habitats in Kent. Key findings from the survey included:

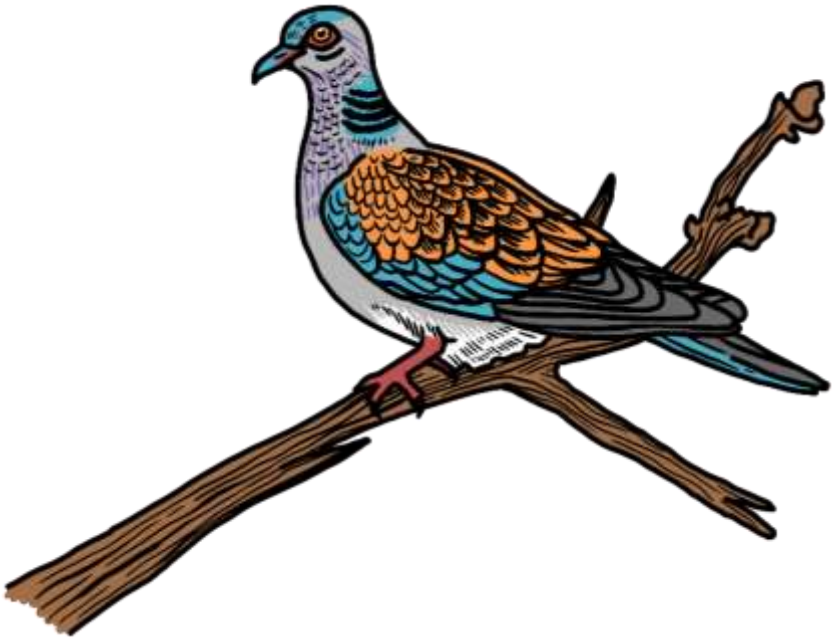
- The natural and semi-natural habitats of Kent cover 27% of its surface area.
- The built environment, including industry, development, travel infrastructure and urban areas cover 16% of the county.
- Arable and horticulture is the land use covering the greatest area, 35% of Kent, followed by intensively managed improved grasslands at 30%.
- Woodlands are the largest semi-natural habitat in Kent, covering 12%, of the county with 11% being broadleaved, mixed or yew woodland.
- Traditional orchards occupy 0.4% but comprise around 10% of the traditional orchard area in England.
- Kent has a very small resource of lowland meadow, with just over 5ha of UKBAP and EU Annex 1 lowland hay meadow. This survey has produced the first records for this habitat type in Kent. A further 19ha of lowland meadow and pasture is also UKBAP priority habitat.
- Heathland is one of the county's most rare and fragmented habitats. Around 74ha was recorded from several sites across the county, an increase on the 52ha recorded in 2003. There are seven main clusters of heathland in Kent, with 19

further small sites of heathland found across the county. The largest cluster of heathland contains 25ha.

- The county contains several nationally and internationally important habitats around the coastline including chalk cliffs and reefs, and vegetated shingle.
- Kent has 36 priority habitats. Of these, 17 have been identified as habitats of local and national significance or that support scarce or declining species.

Many of the county's habitats are UK BAP priority habitats – that being recognised as most threatened and requiring conservation action. The diversity and extent of the strategy area's habitats is illustrated by the habitat survey map and the table below.

More detail on the county's habitats is provided within the corresponding habitat priority in part 2.



Kent Habitat Survey 2012 broad habitats

Kent Habitat Survey 2012 findings

Grassland habitats

Habitat	Extent	Significance locally and nationally
Lowland calcareous grassland	1,929 ha	Occurring along North Downs. 60% classed as BAP habitat; represents 5% of the UK's resource.
Coastal and floodplain grazing marsh	14,174 ha	Majority found along North Kent marshes and grazing marshes of Romney. BAP habitat with greatest cover in county – 3.6%of area. 55% protected by SSSI.
Lowland meadow	27 ha	Locally very rare and represents less than 0.1% of the broad neutral grassland habitat recorded in the county.
Lowland dry acid grassland	512ha	One of the rarest and most threatened habitats in Kent. 51% classed as BAP habitat.
Lowland heathland	74 ha	Mostly found within the NCAs of Wealden Greensand and High Weald, although 22% is within the North Kent Plain and a small amount in the North Downs. All BAP priority habitat, with nearly 90% of this being within either SSSI or LWS.
Arable field margins	-	Not recorded by the 2012 survey. Found throughout Kent where nature-friendly land management practices have been adopted.

Successional habitats

Habitat	Extent	Significance locally and nationally
Open mosaic habitat on previously developed land	-	Not recorded by the 2012 survey. The county has some significant brownfield sites that support an extremely rich diversity of wildflowers and animals, including nationally scarce invertebrates – many of these sites are found within the Thames Gateway. Most notable of these is Swanscombe Marshes, on the Swanscombe Peninsula in Kent is home to a remarkable mosaic of grasslands, coastal habitats, brownfield features, scrub and intricate wetlands.
Scrub	-	Not recorded by the 2012 survey. This habitat exists across Kent, with examples found at Holborough Marshes and Old Park near Canterbury.

Woodland, trees and hedgerows

Habitat	Extent	Significance locally and nationally
Broadleaved, mixed and yew Woodland	44,490ha	11.4% of Kent - Despite the high cover of woodland across the county, only 3% classed as BAP priority habitat: - Lowland mixed deciduous woodland – 153ha; mostly found within the North Kent Plain and the North Downs NCAs. - Lowland beech and yew woodland – 613ha; present notably in the High Weald and Kent Downs National Landscape - Wet woodland – 662ha, accounting for 46.3% of the total woodland BAP habitat recorded in Kent. Important part of the landscapes in the High and Low Weald, as well as the Wealden Greensand and North Kent Plain.
Wood pasture and parkland	3,176 ha	Notable sites in Kent are Knole Park in Sevenoaks and Hatch Park in Ashford.
Hedgerows	Approx. 11,734km	Found throughout Kent lining roads, railways and footpaths, bordering fields and gardens and on the coast.
Traditional orchard	1676 ha	Largest proportion is traditional apple orchards, followed by cherry, mixed, pear and plums. Traditional orchards are found across the county, particularly found in the Kent Downs and High Weald National Landscapes and the Faversham Fruit Belt.

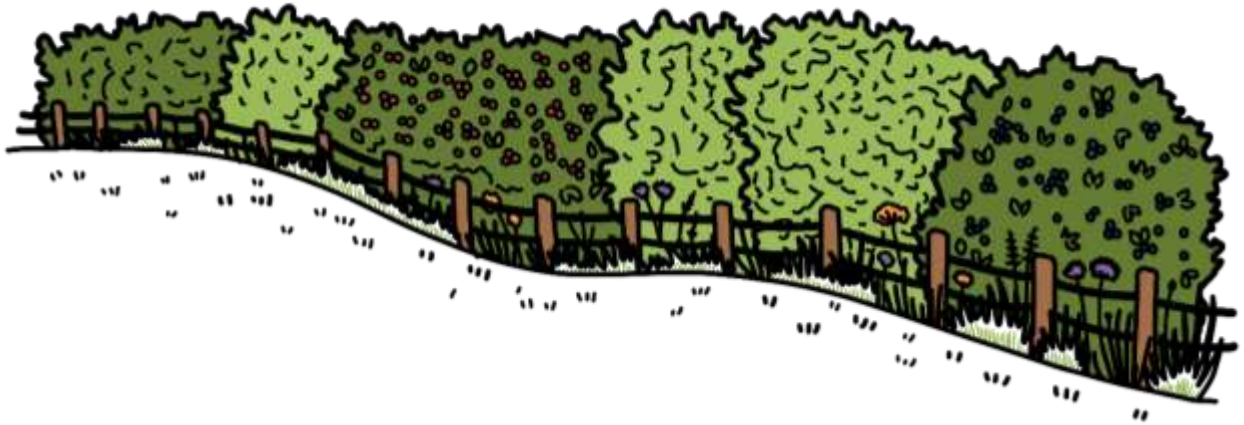
Freshwater

Habitat	Extent	Significance locally and nationally
Rivers and streams	6,592ha	No recorded areas of BAP priority habitats. Chalk streams do emerge from the North Downs and form the source of the rivers Darent, Cray, Shuttle, Dour, Nailbourne and stretches of the Great Stour, Little Stour and North Stream.
Standing open water	4,628ha	Including BAP priority habitats of lowland fen (12ha) and reedbeds (545ha)

Coastal

Habitat	Extent	Significance locally and nationally
Coastal saltmarsh	1,338 ha	Majority found along the north Kent coast, and a large area at Sandwich and Pegwell Bay in the east of the county. Represents 11.2% of the county's littoral sediment resource. Kent's coastal saltmarshes are internationally important.

Habitat	Extent	Significance locally and nationally
Intertidal mudflats	10,078 ha	Majority of habitat is found along the north coast. Coastlines of Medway, Swale and Canterbury districts have more than 85% of this habitat between them. Second largest BAP habitat in the county – 2.6% of the area. Kent's intertidal mudflats are internationally important.
Seagrass beds	29 ha	More than half (52.8%) is found off Medway's shores and 38.9% off Swale's.
Intertidal chalk	415ha	Found to the north-east and east of the county. 56% of England's chalk coastline is found in Kent, making it nationally important.
Oyster beds	-	Not recorded by the 2012 survey – locations of Native Oyster beds are commercially sensitive.
Saline lagoons	286 ha	Kent has 286ha of saline lagoons or ponds, of which 276.2ha is the Annex 1 habitat 'Saline Lagoons' (Coastal Lagoons). They are found primarily along the North Kent coast.
Coastal vegetated shingle	2104ha	Dungeness has the most diverse and extensive examples of stable vegetated shingle in Europe, making it internationally important.
Coastal sand dunes	455 ha	Main dune systems are limited to the eastern and a small area of southern coastline; largest area is found at Sandwich Bay.
Maritime cliffs and slopes	221 ha	Notable examples found at the White Cliffs of Dover, and Folkestone Cliffs and Downs.
Sheltered muddy gravel	9.3ha	More than half found off Dartford, nearly a third off Swale.



3.2 Species

As reported by Kent's 2022 State of Nature review, the wealth of varied habitat in Kent supports more than 3,400 rare and threatened species, with some of these nationally rare and some only found in Kent within the UK. But it is not just the rare or endangered that matter; even the most commonplace species are vital within the wider natural environment. It noted that over 20,000 species have been recorded in total in the county, which represents nearly 30% of all UK species and includes:

- Kent's native **amphibian** fauna consists of five species – Common Frog, Common Toad, Smooth Newt, Palmate Newt and Great Crested Newt.
- The county is home to a wide number of nationally important and rare **bee, wasp and ant** species. 219 species of bee, 221 species of wasp and 41 species of ant are present in the county. Amongst these, Kent is nationally important for Banded Mining Bee, Maidstone Mining Bee, Grey-backed Mining Bee, Shrill Carder Bee, Four-banded Weevil-wasp, Square-jawed Sharp-tail Bee and Fringe-horned Mason Bee.
- Almost 68% of Britain's **beetles** have been recorded in Kent. Beetles can be found in almost all habitats in Kent, semi-natural habitats hold the richest diversity of species. Notable species for Kent include Pride of Kent Rove Beetle, Kentish Clown and Sandwich Click Beetle
- About 245 **bird** species have been recorded regularly in Kent during the past 100 years, 150 of them breeding. Kent supports national strongholds of species, whose ranges are contracting towards the southeast, including the rapidly declining Turtle Dove and Nightingale. Its location also makes it well-placed to receive new colonists and support birds at the limit of their European range. The most important habitats at a national and international scale are coastal ones, which support important populations of wintering and some breeding birds.
- Kent has 42 of Britain's 59 resident species of **butterfly**, including two of the rarest species – Heath Fritillary and Duke of Burgundy.
- When it comes to **dragonflies**, Kent is one of the most species-rich counties in the UK; the county currently hosts 36 species. The abundance and diversity of wetlands in Kent is a significant factor influencing the county's abundance and diversity of dragonflies.
- Kent has a rich variety of **flies**, with some 60% of the British species recorded. Key habitats for some of the rarer species include broad-leaved woodland, chalk grassland, coastal grasslands, grazing marshes and saltmarsh and private gardens.
- Kent has a rich assemblage of **fungi** with 859 species recorded in the county. Many common species are widespread across the county, with the rare or endangered species restricted to the county's unimproved chalk grasslands, meadows, ancient woodlands, traditional orchards, parkland with veteran trees, churchyards, and sand dunes.
- There are 25 species of bush-cricket, cricket, grasshopper, and groundhopper which are regularly recorded in Kent and Medway, around 5 species of cockroach found outdoors and 4 species of earwig. A number of species are rare or scarce nationally.
- Twenty-nine terrestrial **mammal** species are found in Kent, including the Water Vole, Hedgehog, Hazel Dormouse, Harvest Mouse and Eurasian Beaver.

Terrestrial mammals occupy all identified Kent priority key habitats. Not included in this number is the rich fauna of **bats**, with 17 of the UK's 18 species recorded in the last 10 years.

- Kent has abundant and varied **marine** wildlife, known to comprise of at least 700 species. The coast also hosts a moderately rich **seaweed** flora with 256 brown, green, and red algae of the 650 known in the British Isles. The Thanet, South Foreland to Dover, and Folkestone seashores are the most species rich.
- All key habitats in Kent hold at least one population of nationally important macro or micro **moth** species, with 750 macros recorded (about 80% of the UK moth species) and between 1,300 and 1,400 of micros. Important populations of rare moth species include Straw Belle and Black-veined Moth on the Kent Downs, the principally coastal species Bright Wave and Fiery Clearwing, and Fisher's Estuarine Moth around the Thames Estuary.
- The county's native **reptile** fauna includes two snakes, the Grass Snake and Adder, and two lizards, the Viviparous Lizard and the Slow Worm. Kent's reptiles use a range of habitats, of which chalk grassland and its associated low scrub is particularly important.
- 473 **spider** species are recorded, representing almost 71% of the total number recorded in the British Isles – six of these have only been recorded in Kent. Key habitats for these species are chalk grasslands, ancient woodlands, and coastal habitats.
- More than 2,500 taxa make up the Kent **vascular plants**. The county's rare plant register currently lists 333 species and includes the nationally rare plants of Wild Cabbage and Coralroot, both of which have significant Kent populations. In the last 10 years, four native species have been added and 14, previously thought to have been lost, have been re-found.

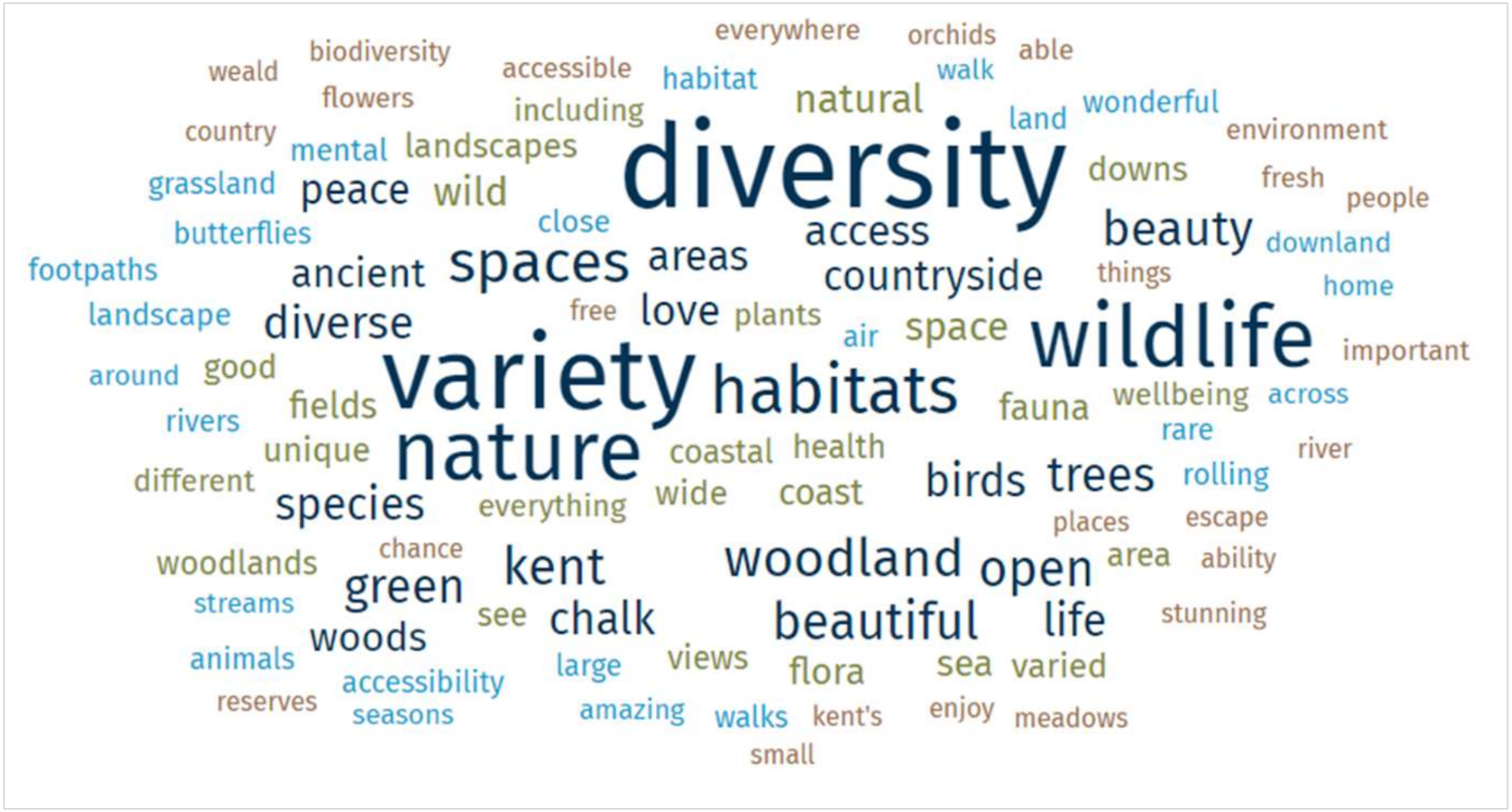
More detail on the county's species is provided within the corresponding species priority in Part 3.

3.3 More than facts and figures

It is all too easy to get fixated on the numbers when considering what makes Kent's nature so special but there's the other perspective of the cultural influence and identity is gives the county and, moreover, what it means to the people of Kent – who ultimately will be the ones that either deliver or demand (or both) the recovery of nature.

When asked "what do you love about Kent's nature" our residents not only demonstrated a passion and enthusiasm but also recounted personal memories and their connection with nature "I love it when the Blackthorn blossoms and when I get to pick blackberries", commented one respondent, "I love the timelessness of ancient woodland, the ebb and flow of birds on tidal mudflats…" commented another.

However, woven throughout the responses was a sense that our biodiversity was under threat and that perhaps our nature wasn't being valued highly enough. But there was hope that a collaborative vision for the future and better decision-making would offer Kent's nature the support to flourish.



What Kent loves about nature (online survey 2023)

4. A changing landscape

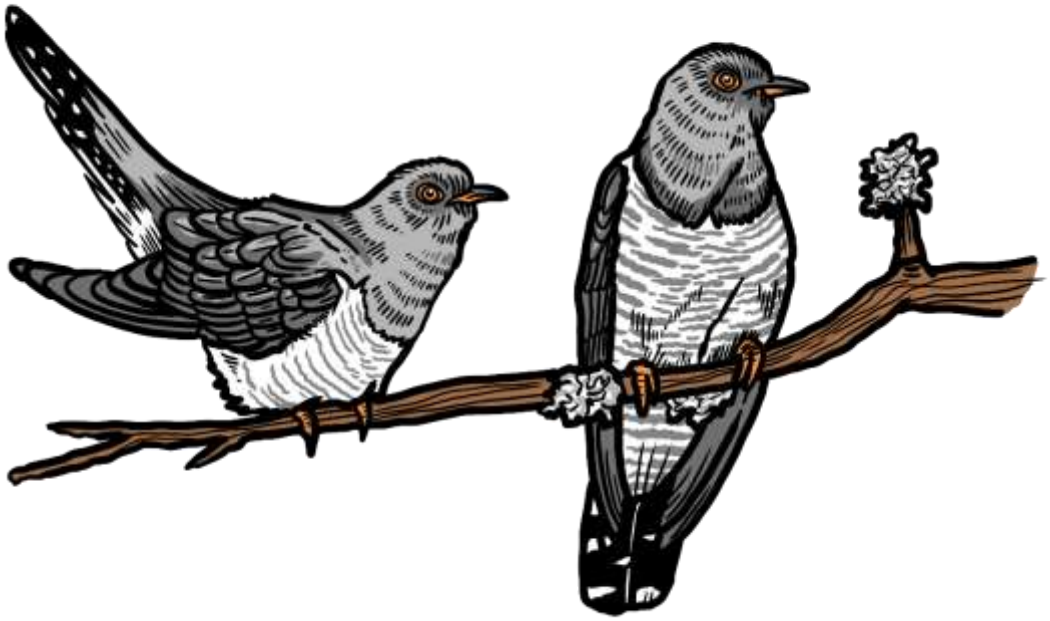
4.1 Changes in landcover

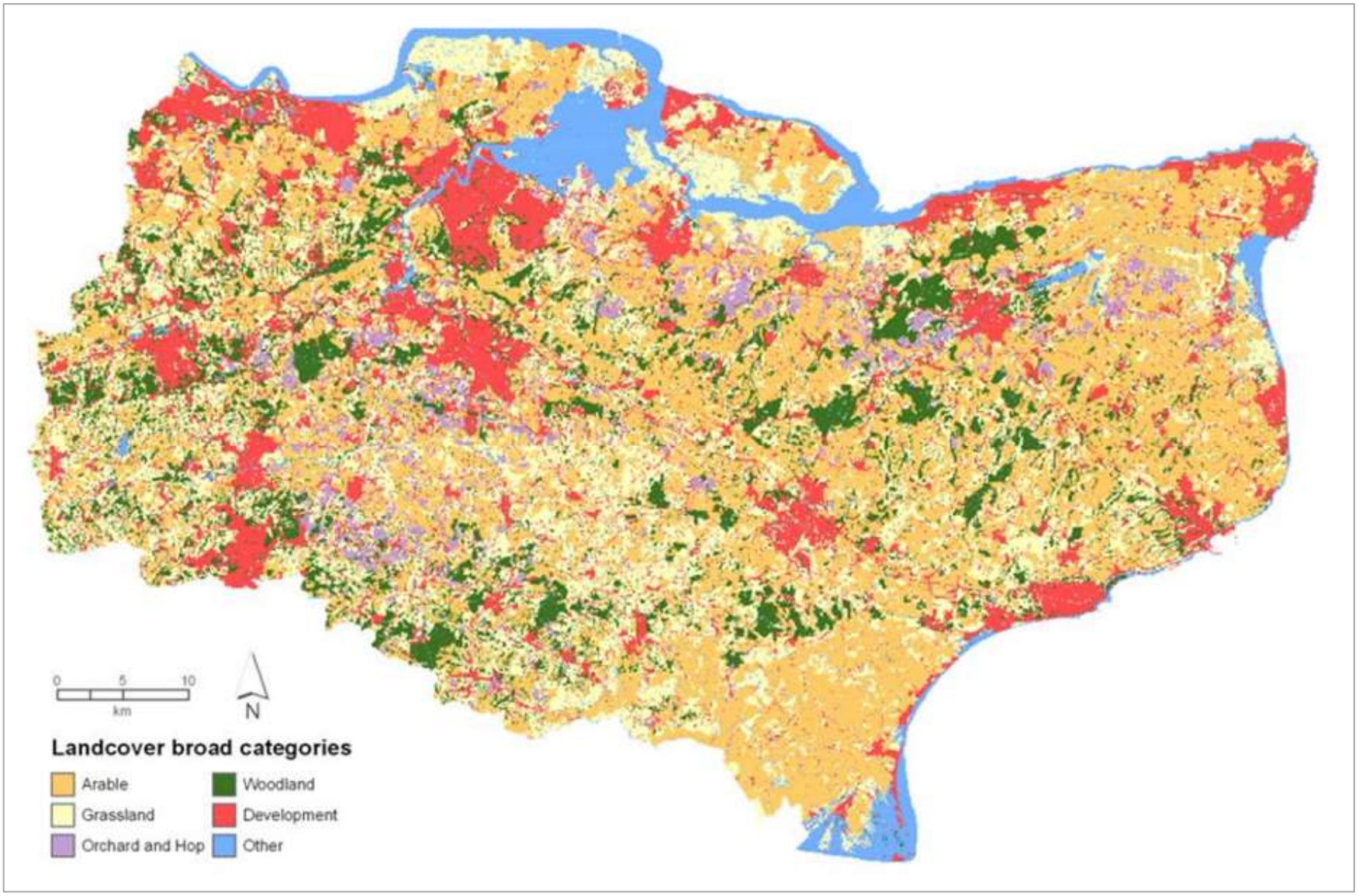
The 2012 Kent Habitat Survey undertook a land cover change analysis across the period of 1961 – 2008. Although concluded 16 years ago, this is still the most recent, comprehensive study of its kind for the county.

The map overleaf illustrates the broad landcover of the county. Arable has the greatest extent, followed by grassland, development and then woodland.

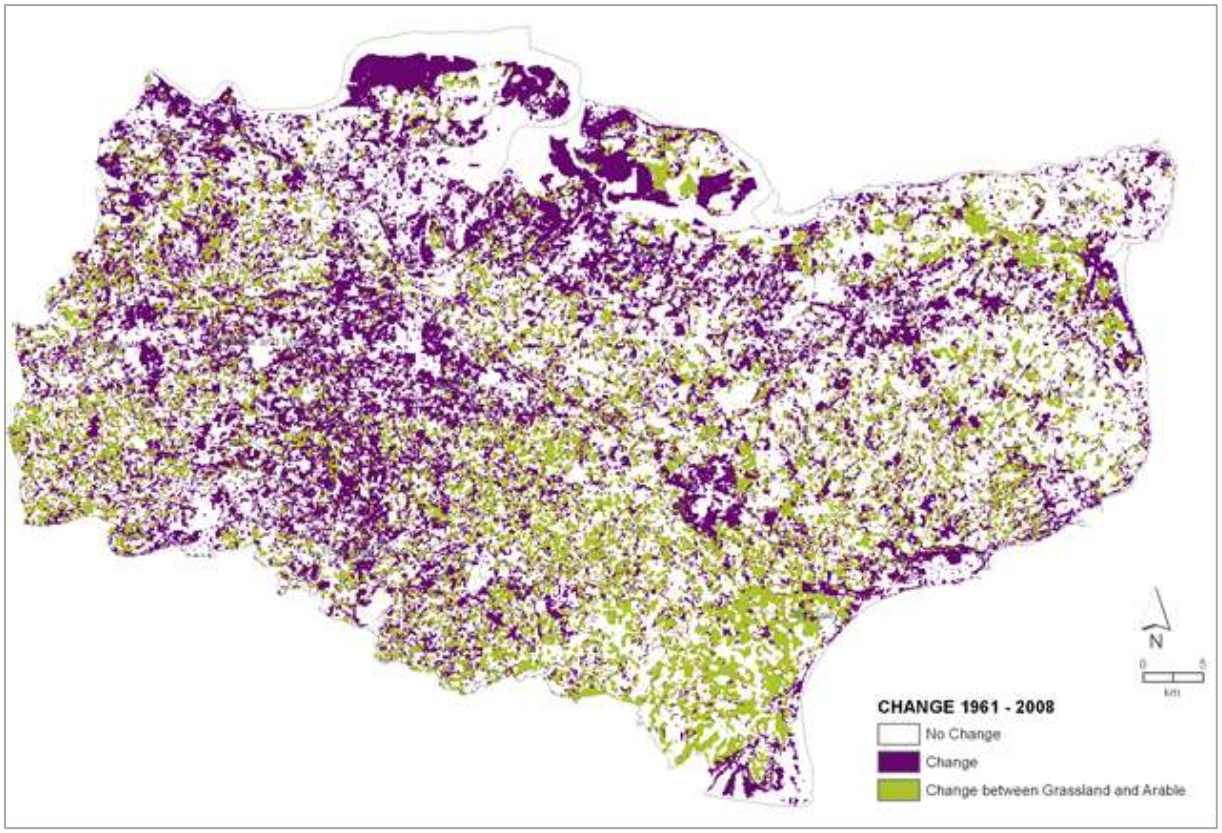
The change analysis showed that land covered by development had noticeably increased, from nearly 11% in 1961 to over 17% in 2008. This represented a total increase of 62% on the 1961 resource. Orchards and hop cover had declined the most, with a dramatic two-thirds of the resource lost since 1961. The extent of land covered by arable and grassland had changed very little, hovering around 60%.

The two maps overleaf illustrate the changes – the first since 1961 and the second for the last decade of the survey period. The change between arable and grassland does not necessarily represent a real or permanent change and is more a reflection of the agricultural economy fluctuation.

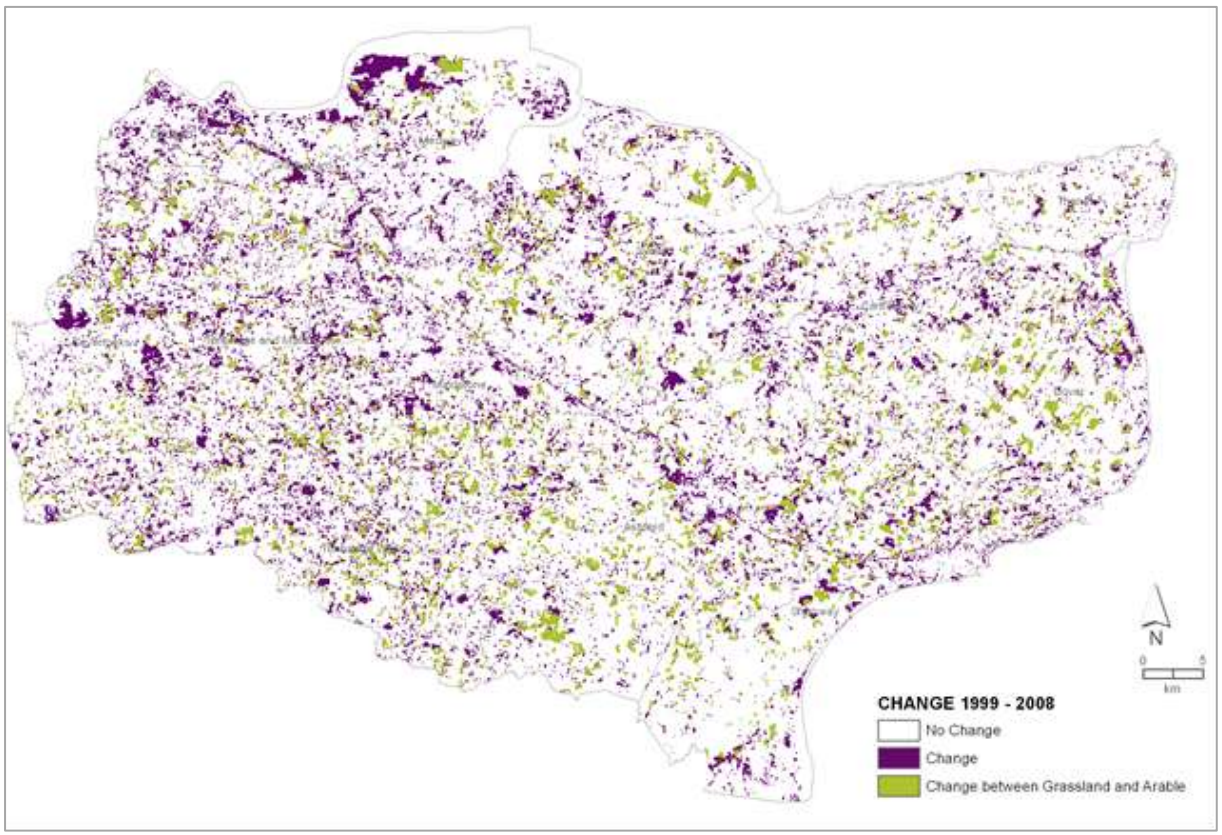




Map of broad landcover in Kent (2008)



Filtered change in landcover 1961 to 2008



Filtered change in landcover 1999 to 2008

4.2 Changes in the distribution and extent of habitats

The 2012 Kent Habitat Survey also undertook an analysis of habitat change, since the published survey 10 years previously.

The change from habitats in 2003 to other habitats in 2012 totalled an area of 37,870ha. The table below shows the broad habitats that accounted for 98% of the change. All other broad habitats present in Kent had less than 0.5% change, many much less, and only accounted in total for 2% of the total change. The change does not necessarily represent a loss of habitat overall but on a broad habitat basis does represent a loss of that specific habitat type.

Broad habitat	**Percentage of broad habitat changed to another habitat type**
Arable and horticulture	61.76%
Improved grassland	21.41%
Neutral grassland	5.28%
Broadleaved, mixed and yew woodland	2.67%
Inland rock	2.25%
Built-up areas	1.91%
Standing open water and canals	0.97%
Calcareous grassland	0.85%
Traditional orchard	0.84%
Littoral sediment	0.68%

4.3 Changes in the distribution and extent of species

In 2022, trend analysis of changes in the distribution and extent of Kent species was published, written by the county's species specialists. Whilst this showed that there was positive news to report across most of the species groups thanks to conservation efforts, the national and global trend of species declined was mirrored, with species continuing to go extinct from the county and many more threatened, along with their habitats.

However, Kent was shown to be holding its own for insects, being one of the most species rich counties in the UK for dragonflies and damselflies and having 42 of Britain's 59 resident species of butterfly. The individual trends vary, but thanks to conservation efforts, some of some the rarest butterfly species, such as Heath Fritillary are now on the increase in Kent.

While nationally the abundance of moths is in decline, trends in Kent over recent years are mixed, but more species show an increase than a decrease.

Kent's amphibian populations are thought to be reasonably stable, while all four native reptile species are thought to be in decline.

Unfortunately, downward trends are also to be found in Kent's birds, especially farmland and woodland species, and wintering waterfowl that previously were

increasing. Populations of most of Kent's bat species have also declined in recent decades.

Kent is also on the frontline for species colonising from Europe with cattle egret and black winged stilt arrival and establishment being linked to climate change. The downside of proximity to Europe is that airborne pathogens such as ash dieback are easily spread and this fungal disease is now firmly established in the county.

Some headlines from the State of Nature in Kent report (2022) are shown below, with more detail provided within the corresponding species priority in part 2.

Wins for Kent's species	Losses for Kent's species
✓ First Wasp Spider recorded in Kent (1997).	× Small Pearl-bordered Fritillary Butterfly lost from Kent (1997).
✓ Water-biter Bush-cricket reintroduced to Lydden Temple Ewell (1990s).	× Frog Orchid last recorded in Kent (1998).
✓ Little Egret regularly breeding in Kent (2000).	× Pearl-bordered Fritillary Butterfly lost from Kent (2002).
✓ UK's first enclosed Beaver trial established at Ham Fen (2001).	× Willow Tit last year of regular breeding in Kent (2005).
✓ Brown Hairstreak recorded for the first time since 1971 (2016).	× Redstart ceased breeding in Kent (2016).
✓ Few-flowered Spike-Rush found at Ham Fen after a 142 year absence from the county (2018).	× Turtle Dove added to the Rare Breeding Birds Panel species list (2018).
✓ Little Tern fledged at the Castle Coote area of South Swale reserve for the first time in 15 years (2019).	× Bugs Matter survey finds 50% fewer insects in Kent than in 2004 (2019).
✓ Micro-moth *Hypercallia citrinalis* rediscovered in Kent having last been recorded in 1979 (2019).	
✓ Greater Horseshoe Bat rediscovered in Kent (2019).	

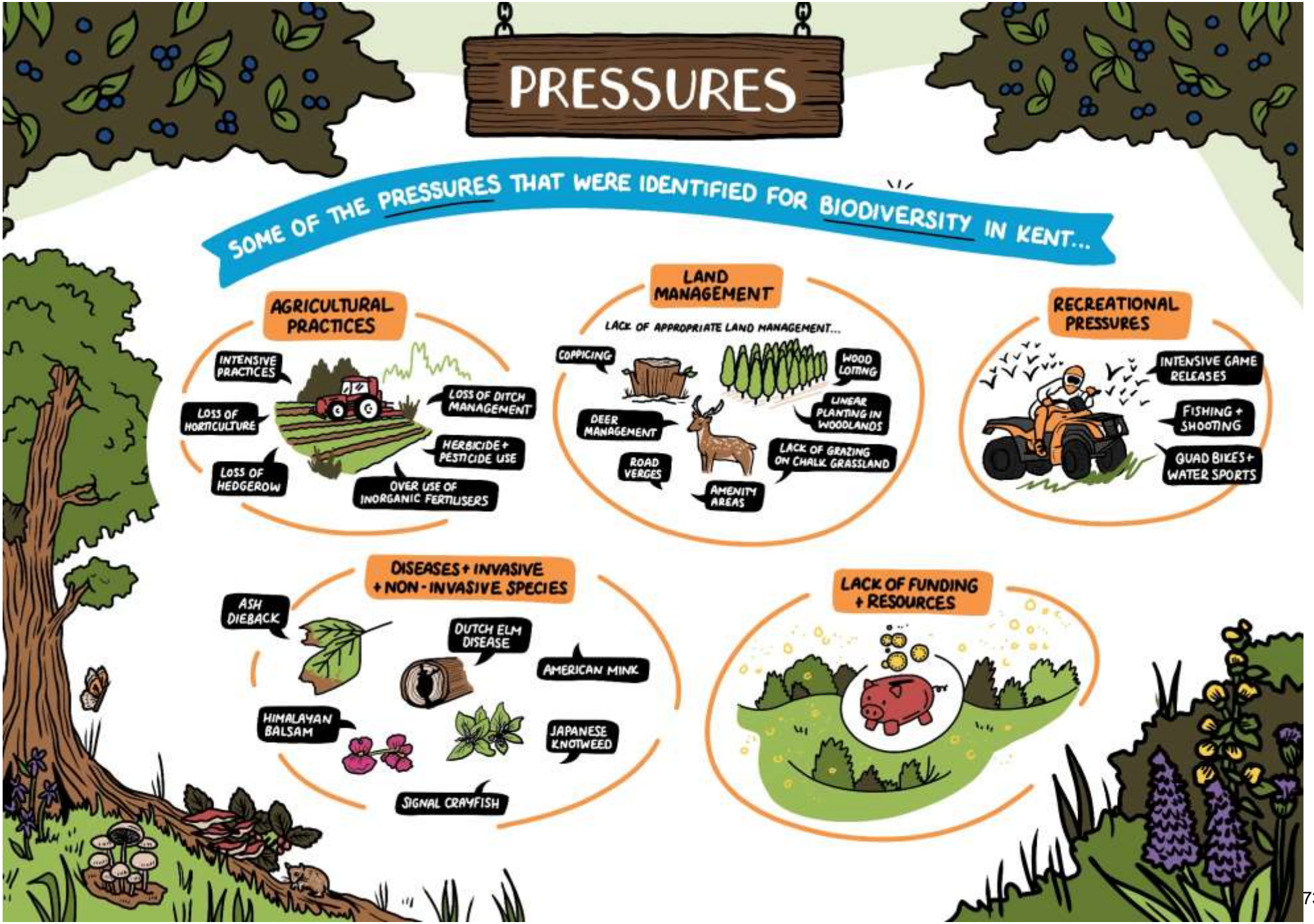
5. Pressures, threats and challenges for Kent and Medway's nature

Changes in Kent's habitats and species are influenced by a range of pressures, challenges, and drivers. It is important that any strategy to recover the county's nature takes these into account, addressing them directly where possible and acknowledging the limitations they may present where this is not possible.

Many of the pressures described here are linked to both climate change and the competing demands on land use – which together present the biggest problems facing Kent's habitats and species.

Through strategy workshops, Kent's stakeholders assisted in compiling the current and future pressures and challenges facing nature in the county.


PRESSURES
SOME OF THE PRESSURES THAT WERE IDENTIFIED FOR BIODIVERSITY IN KENT...
CLIMATE CHANGE
DROUGHT
HIGHER TEMPERATURES
EXTREME WEATHER EVENTS
COASTAL SQUEEZE
POLLUTION
WATER POLLUTION
• NITRATES + PHOSPHATES RUN OFF •
• SEWAGE RELEASES •
• FLEA TREATMENTS FROM PETS •
• MICROPLASTICS •
AIR POLLUTION
• FUEL COMBUSTION •
• NITROGEN OXIDE FROM AGRICULTURE •
• PARTICULATE POLLUTION •
WATER DEMAND + MANAGEMENT
FLOODING
OVER ABSTRACTION
RIVER MODIFICATIONS
DRAINAGE OF WETLANDS
HUMAN PRESSURES
HABITAT DISTURBANCES FROM HUMANS + PETS
CRIME, ANTISOCIAL BEHAVIOUR + VANDALISM
WILDLIFE REMOVAL
DISCONNECTION WITH NATURE
LACK OF KNOWLEDGE + UNDERSTANDING
BUILT-UP AREAS
LOSS OF GREENSPACE
HERBICIDE + PESTICIDE USE
ROADS + MOTORWAYS
HEDGE LAYING + COPPICING
OVER USE OF INORGANIC FERTILISERS
NEW DEVELOPMENTS OF TRADITIONAL PRACTICES (LIKE DITCH MANAGEMENT)


PRESSURES
SOME OF THE PRESSURES THAT WERE IDENTIFIED FOR BIODIVERSITY IN KENT...
AGRICULTURAL PRACTICES
INTENSIVE PRACTICES
LOSS OF HORTICULTURE
LOSS OF HEDGEROW
LOSS OF DITCH MANAGEMENT
HERBICIDE + PESTICIDE USE
OVER USE OF INORGANIC FERTILISERS
LAND MANAGEMENT
LACK OF APPROPRIATE LAND MANAGEMENT...
COPPICING
WOOD LOTTING
LINEAR PLANTING IN WOODLANDS
DEER MANAGEMENT
ROAD VERGES
LACK OF GRAZING ON CHALK GRASSLAND
AMENITY AREAS
RECREATIONAL PRESSURES
INTENSIVE GAME RELEASES
FISHING + SHOOTING
QUAD BIKES + WATER SPORTS
DISEASES + INVASIVE + NON-INVASIVE SPECIES
ASH DIEBACK
DUTCH ELM DISEASE
AMERICAN MINK
HIMALAYAN BALSAM
JAPANESE KNOTWEED
SIGNAL CRAYFISH
LACK OF FUNDING + RESOURCES

5.1 Climate Change

The strategy area is on the frontline of climate change. Climate change impacts include warmer, wetter winters and drier summers; and it is considered that as a result of climate change, Kent and Medway has experienced some of the hottest UK temperatures in recent years.

Based on the Met Office's UK Climate Projections (UKCP) for the South-East, by 2080:

- summers are likely to be hotter by around 5°C to 6°C
- winters are likely to be warmer by around 3°C to 4°C
- summer rainfall is likely to decrease by 30% to 50%
- winter rainfall is likely to increase by 20% to 30%
- sea level rise is likely to increase by 0.8m

The impacts of climate change are likely to be felt acutely in Kent with its long, strategically important coastline, large number of properties at risk of flooding and warm summers compared with the rest of the United Kingdom.

Kent is facing immediate and urgent challenges relating to climate change, including new pests and diseases, sea level rise and coastal erosion. Both drought and flooding are affecting our water bodies and wetlands. Other impacts include water scarcity, wildfires soil erosion and poor air quality. Changes in species distribution and abundance, and changes in land management practice are also taking place.

Drought is a climate change impact that is being further compounded by a growing population and associated high demand for water – not just for people but also for the accompanying food production. As a result, Kent is now a water-stressed county, which in turn is impacting on where certain types of food production and development can take place.

With our landmass gradually dipping into the sea due to isostatic effects, habitats on the Kent and Medway coast are particularly vulnerable to sea-level rise. Furthermore, rising sea temperatures present an additional pressure on native habitats and species.

There is a rate of habitat condition change taking place because of climate change that many native species can’t keep up with. Some species are moving north, and others are declining. Fragmentation of habitats and the wider landscape can restrict the ability of species to move in response to our changing climate.

Climate change is resulting in disruption for pollinating species, and in migratory patterns and life cycles for a range of other species. The decline in the insect populations has been linked to climate change, as well as other factors such as land management practices, including the use of pesticides.

Meanwhile species previously not found in Kent and Medway are migrating from further south as a result of climate change, with changing conditions also favouring

some less welcome invasive, non-native species, with negative effects on our endemic species.

Extreme climate events, including periods of intensive rainfall, are resulting in pollution from excessive nutrient run-offand erosion, reducing soil health. The invertebrates in our soil are often unable to cope with the impacts of water-logging and reduced oxygen in one season, and then a lack of sufficient water in another.

The county's wetland habitats are particularly vulnerable to these extremes of wetter winters and drier summers, while rare habitats such as chalk streams are susceptible to slower flow rates in summer and the increased build-up of pollutants caused by this. Other habitats, such as chalk downland, while generally more resilient to climate change, are also vulnerable to these extremes, with intense rainfall damaging or washing away the top layers of the soil.

Our approach to mitigating climate change and finding greener energy sources, can also create impacts on the natural environment in terms of where projects such as solar and wind farms, are located.

Whilst the causes of climate change are global and largely out of control of the Local Nature Recovery Strategy, the impacts of it are an overriding context for the Strategy. Consequently, many of the priorities and potential measures are looking to manage and mitigate the impacts of a changing climate and make our natural environment more resilient and adaptable. Some of the key considerations for climate change impacts when designing a Local Nature Recovery Strategy are outlined in the table overleaf.

Climate change impact	Key considerations
Drought	• Climate change impacts compounded by extra demand for water extraction – demand for water for food production, nature conservation and of course communities • River flow rates are reduced, resulting in a greater concentration of pollutants. • Riverbanks dry out, resulting in habitat loss for Water Voles, Kingfishers and Otters. • Soil health suffers - reduction in the number worms, slugs, snails available. • Vital areas for breeding wading birds, such as coastal grazing marsh which needs to stay wet all year, are drying up. • Saline lagoons' delicate salinity regime is vulnerable to drier summers (and wetter winters). • Difficulty in establishing newly planted trees. • Difficulty in establishing certain types of crops, a situation driving land use change/uncertainty over land use.
Extreme weather events	• Heatwaves in summer and heavier rainfall and increased flooding in winter. • Soil quality is impacted on a range of habitats. • Tidal flooding can result in saltwater encroachment on freshwater habitats. • Contamination of waterways, through the concentration of pollutants. • Risk of wildfires destroying some habitats.
Higher temperatures	• Biodiversity has optimum temperatures for a given habitat or species. • Rising freshwater water temperatures - reduces oxygen - loss in fauna. • Small changes in sea temperature are affecting fauna. • Less frost in winter to break up clay soils – decline in soil health. • Changes in seasonal patterns affecting life cycles.
Sea level rise and coastal squeeze	• Intertidal habitats such as saltmarsh and mudflat are gradually lost. • Loss of annual vegetative drift line, so vegetative shingle cannot replenish.

5.2 Pollution

5.2.1 Water pollution

Nutrient pollution remains one of the most pressing environmental challenges facing Kent's rivers, streams and groundwater. Phosphates and nitrates are the main pollutants; nitrates are particularly persistent in slow-moving groundwater. Most rivers in Kent—including all chalk streams—are fed by groundwater, making them

especially vulnerable to nutrient pollution. Once groundwater is contaminated, it can continue to pollute surface waters, creating a cycle of poor water quality that limits nature recovery unless directly addressed.

Agriculture is still the leading source of nitrate contamination in groundwater, followed by leaking sewers, private sewage systems, and historic waste. The State of Nature in Kent (2022) highlights widespread exceedances of safe nitrate levels, with long-term implications for drinking water and ecosystem health.
Phosphorus pollution is driven primarily by treated sewage effluent, with agricultural run-off and private treatment systems also contributing. These sources fuel eutrophication, leading to algal blooms, oxygen depletion, and damage to aquatic ecosystems. Using too much fertiliser —particularly over-application or spreading during heavy rainfall—worsens the problem by washing nitrates and phosphates into rivers and lakes.

Surface water bodies are especially vulnerable during summer months, when low flows concentrate pollutants. Chalk streams, which are ecologically rare and hydrogeologically sensitive, are particularly at risk. While improvements in surface water quality may be achievable in the short term, groundwater recovery will take longer due to the legacy of historic nitrate use and the slow movement of water through the soil to the water table.

Pollution is not confined to inland waters. Coastal areas in Kent are increasingly affected by sewage discharges, storm overflow events, and illegal outflows. These are compounded by risks from petroleum pollution due to shipping. High phosphate levels and sewage pollution contribute to algal blooms that smother seagrass beds—vital nursery habitats for juvenile fish.

Other pollutants are also of concern. Metals, pesticides, pharmaceuticals, flea and other parasite treatments, industrial chemicals, plastics and silt, particularly from housing development sites, all contribute to the degradation of water quality. Microplastics and chemicals such as PFAS (“forever chemicals”) are pervasive in freshwater. They do not break down naturally and will take an extremely long time to remove.

The water quality information outlined above is based on the WFD classifications for 2019 and taken from the Kent State of Nature Report (2022). Interim classifications for ecological quality elements were produced for 2022 where suitable data was available. The next full set of classifications will be produced for 2025.

5.2.2 Air pollution

Air pollution sources include almost anything that involves fuel combustion. Air pollution can influence the quality of soil and water bodies by polluting rain and snow, which falls into water and soil environments. Of particular concern are small particulates in the atmosphere, as they remain suspended in the atmosphere for a long time and can be dispersed over a wide area. These particles can change the nutrient balance in water ecosystems, leading to species loss and damage to forests and crops. They also acidify water bodies.

Kent is going to see an increase in road freight, road building and road widening, which will have impacts in terms of air quality and biodiversity.

Atmospheric nitrogen is also having a significant impact on nature, with excessive levels of nitrogen causing loss of sensitive species, changes to habitat structure and function, reduction in biodiversity, changes in soil chemistry, and increased sensitivity to climate change and pests. Ground level ozone can reduce plant growth, flowering and crop yields.

A recent study of atmospheric fine particulates suggested that, across Kent, atmospheric levels were double the World Health Organization's recommended annual average maximum limit. The impact on wildlife and biodiversity can be significant, leading to health problems for animal species, including reproductive failure and birth effects when exposed to high levels of pollutants.

Ammonia from agricultural activity, including fertiliser application and intensive livestock production, also produces additional nitrogen air pollution. Where deposited in soils and vegetation, it can acidify soil and over-fertilise sensitive ecosystems; it also acts as a fertiliser, making conditions too rich for many wild fungi and plants. In 63% of Special Areas of Conservation – our best wildlife sites – nitrogen levels are already too high, with dire consequences for animals, including pollinating insects, which depend on wild fungi and plants for food, nutrients and shelter.

Nitrogen dioxide can negatively impact on insect biomass (Campbell & Vallano, 2018) or directly impair the fitness of birds via inhalation exposure (Sanderfoot & Holloway, 2017). When leached into water, it leads to eutrophication, where elevated concentrations of nutrients stimulate the blooming of aquatic algae, which can cause an imbalance in the diversity of fish and ultimately high numbers of fish deaths.

Ongoing analysis in the Countryside Survey has clearly demonstrated that over the last 30-40 years, roadside verges have seen significant decline in once common wildflowers such as Comfrey, Lady's Smock, White Dead-nettle, Garlic Mustard, Bird's-foot Trefoil, Ox-eye Daisy, and Early Purple Orchid. At the same time, Cow Parsley, nettle species and some grasses have flourished because it has been fertilised into excessive growth by nitrogen compounds from car exhausts, especially diesel ones.

Deposited directly from the air and in rain, the nitrogen enriches the soil, creates acidic conditions and causes direct damage to our flora. More than two thirds of our wildflowers, including plants like Harebell and Betony, require low or medium levels

of nitrogen. Only robust species, such as Common Nettle, Cleavers and Hemlock thrive in nutrient enriched soils. Woodlands, grasslands, heaths and bogs have all become colonised by nitrogen-loving plants, with knock-on effects for all our wildlife.

5.2.3 Soil pollution

A key factor for the health of many species in the agricultural landscape begins with the soil, but good soil health is essential for all habitats.

Across Kent, conventional farming and agrochemical inputs for improved pasture, arable and in top fruit, have reduced the soil biology, leading to a break in the food chain. In extreme cases excessive nutrients from certain agricultural activities, along with sewage effluent, are contributing to soil pollution; the polluted soil is then very restrictive in terms of the biodiversity it can support.

5.3 Water demand and management

Water resources and scarcity is an issue in Kent & Medway, with increasing demands from an ever-growing population, including food production, being compounded by climate change.

The county is faced with the challenge of too much water in the wrong places and too little where it is needed. Increased hard standing from urbanisation and developed areas, along with more erratic weather and intense rainfall, has resulted in increased surface flooding risks. Climate change impacts, including higher temperatures have increased the need for more water, while drought reduces the natural supply, in these circumstances over-abstraction compounds these issues.

Surface water drainage, particularly in urban areas, can have significant impacts on nature, both positive and negative. Improper drainage can lead to flooding, erosion, and pollution, harming ecosystems and wildlife. However, sustainable drainage systems can mitigate these negative impacts and even offer benefits like improved water quality, enhanced biodiversity, and flood risk reduction.

Sufficient water is critical for many of our habitats. For instance, freshwater grazing marsh relies on a good supply of water, and this is often not available in sufficient amounts during spring and summer when the wildlife that rely on this water supply, such as Lapwing and Redshank, are present. Further to this, low river flows in the summer months results in concentrated of pollutants, leading to the contamination of waterways which in extreme cases, can prove fatal for the associated wildlife.

As well as the demands we place on water, we are also dealing with the consequences of centuries of man-made river modifications. This has included the straightening of rivers, with barriers such as weirs and other structures being established. The impact of this is reduced flow variation for fish and amphibians to spawn and prevention passage for fish and eel migration.

Some wetlands have been infilled and, where wetlands do remain, there can be poorly maintained infrastructure and insufficient management. In addition, water is often drained from catchments too quickly for wildlife to cope.

As a result, there is loss and degradation of floodplain and riparian habitats, with many rivers and wetlands no longer acting in a natural way. Ultimately this has resulted in reduced connectivity within our catchments and an overall reduction in biodiversity.

5.4 Human pressures

5.4.1 Access

There are often inequalities in access to nature, with some areas having neither sufficient access routes nor natural greenspace close to where they live. The societal and health impact of this is compounded further, given that many of these areas are all areas of deprivation and low health. And where access does exist, there can be tensions between the needs of nature and the need for public use of the land, particularly on more sensitive wildlife sites. Our coastal sites are particularly vulnerable to this, where recreational disturbance impacts on breeding, passage and wintering waterbirds can render large areas of otherwise suitable habitat effectively unusable by these species.

The county's Public Rights of Way network plays a vital role in providing access to nature, but in some cases disturbance of wildlife is an issue. Many people will stick to Public Rights of Way and other appropriate pathways and routes, but in some cases, veering off these results in wildlife disturbance and trampling of vegetation, soil and sensitive habitats. In other cases, where there is no public access, people still use land for recreation, resulting in risk to not just wildlife but livestock and crops, plus antisocial behaviour such as littering and vandalism.

In urban areas, the type of green space provided and its management, is also often pressurising nature. Sometimes there is an aversion to having areas that are seen as "overgrown" but would actually provide better habitat for wildlife. This is often accompanied by an ingrained intent to maintain tidiness – also to the detriment of wildlife.

Disturbance of wildlife by people and dogs often takes the form of ground nesting birds, such as skylarks, being put up from their nests. Livestock can also be disturbed, not only potentially harming the animals themselves but also resulting in the trampling of nests. In some areas, dog attacks on animals used in conservation grazing have made it near impossible to manage these sites for wildlife. Disturbance to feeding birds, particularly on our coasts is also an issue. Many of our sites are designated for overwintering wildfowl and wading bird species and the disturbance of these birds through leisure activities, including dog walking, is putting a serious strain on the bird's ability to feed, rest and survive the winter and spring migration back to their nesting sites.

5.4.2 Criminal and antisocial activity

Criminal activity relating to wildlife and nature can take many forms. Fly-tipping is a common problem which is both unsightly and can result in soil contamination and harm to wildlife. Illegal waste disposal causes pollution. Litter has direct impacts on wildlife, getting into the food chain and killing animals, causing injuries or contaminating water bodies.

Vandalism can cause problems to our wild areas such as destruction of newly planted trees, removal of nest boxes or monitoring equipment, or burning of grassland and heathland sites.

Illegal hare coursing still takes places in some areas of the county, and there are also reports of poaching and the shooting of a range of wildlife.

5.4.3 Wildlife removal

Whilst sustainable foraging is a perfectly legitimate activity which connects people with nature, excessive foraging for fungi, fruit and other flora and fauna can have a negative impact. Collecting orchids, other rare plants and birds' eggs is not the problem it once was, but incidents are still reported and pose a risk to our rarer species.

5.4.4 Disconnect with nature

There are many people that strongly value their local wildlife, and are even acting for nature through community groups, volunteering etc. Where apathy towards nature does exist, it can result in a lack of motivation to take personal responsibility for nature recovery or to provide a voice for nature. Apathy also means that the health and wellbeing benefits of nature are not always realised. This is self-perpetuating, as a lack of connection can further the apathy.

Disconnect with nature can be particularly prevalent in urban populations, where in some cases there is limited opportunity to experience nature. But it can also happen in rural locations, where barriers might be more psychological, such as fear of nature or remote places.

Disconnect with nature means that people do not value nature, however placing a financial value on nature doesn't always result in the right outcomes. If society only sees nature for the economic value it has, rather than the inherent value it has in its own right, some of the less tangible benefits that it brings may be overlooked and further damage done. It is also suggested that the loss of nature can be compensated for if enough money is spent. Whilst recognising the value of nature may result in important finance, if the sole value placed on nature is financial, then nature and society will ultimately lose out.

5.4.5 Lack of knowledge and understanding

Apathy that stems from simply not understanding or having knowledge can equally prevent a person from striving to better understand. When people lack understanding, they are also often unaware of how their actions and behaviour impacts wildlife. This can result in unintentional damage to or mismanagement and use of the natural environment.

By contrast, although public interest in more charismatic mammal and bird species is helpful, it can mean that there is a lack of appreciation of species, such as invertebrates, that underpin the wider ecosystem. Having a better understanding is important, since "everyday" wildlife is where most people can make a difference, through approaches such as nature-friendly gardening practices, bird and bat boxes and maintaining wildlife corridors.

5.5 Built up areas

The public built and managed estate – parks, gardens, schools, sports facilities – are not always used to their potential for nature. This itself presents an opportunity to support nature recovery through improvements to land management.

While some amenity spaces such as sports fields need to be closely mown and have limited wildlife value, they are still part of a network of green spaces and if managed well this wider network provides vital green lungs in urban areas and connectivity for wildlife between the town and the wider countryside.

Many green spaces are not managed for nature however and are over-mown, with plant species not allowed to flower and tree planting does not always focus on native and climate resilient species. Weed control through use of pesticides (mainly herbicides) in public space management, also restricts biodiversity.

Some nature friendly land management practices, such as cut and collect, can be more costly at the outset and are sometimes simply not accessible as a result.

Greenspace is also lost as a result of front gardens being paved over for parking and grass replaced with artificial grass, paving stones, gravel and impermeable plastic layers. This also results in a reduction in soil health, increased surface water run-off and potentially pollution of water bodies.

A growing population requires housing and infrastructure – not only does this result in land take but also fragments the landscape and reduces connectivity. People also need somewhere to recreate – as the population increases so does their impact, with human disturbance of wildlife a frequent problem and particularly acute where development is close to fragile habitats. The green infrastructure provided for new developments is vital for alleviating pressure on more sensitive wildlife sites. A further impact of an increasing population is the associated number of pets causing disturbance to, and predation on, wildlife.

Roads result in a fragmented natural environment, direct mortalities from vehicles and air, noise and light pollution. Kent is going to see an increase in road freight, road building and road widening, which will impact biodiversity.

Light pollution is not just from roads but urban street lighting and other sources. It has a range of mainly negative impacts on nature, including interfering with biological rhythms and influencing behaviours. Insect populations can be particularly disoriented, with moth species being disproportionately predated by bats for example. In turn, bats also suffer from disruption of navigation and roosting behaviours because of light pollution.

Improved water management is vital to ensure pollutants from wastewater are not reaching the natural environment, this is not just phosphates from sewage, but flea and other parasite treatments for pets, detergents and various microplastics.

All new development can present opportunities for nature when delivered well if wildlife connectivity into and through sites is properly designed. This can range from hedges, planted verges and trees, to fencing which allows hedgehog and other wildlife movements. New building designs and maintenance practices have led to a loss of nest and roosting sites in buildings for urban birds and bats but this is easily addressed through the use of bird and bat boxes on new developments - however inclusion of this, alongside native planting in landscaping, is not always common practice. Nature in urban environments also allows for connection with nature and provides regulatory services such improving air quality and mitigating noise.

The pressure for growth across Kent is already significant but is likely to increase further as a result of renewed housing targets in 2025. Whilst the Local Nature Recovery Strategy does not preclude development it will play an important role in shaping the future growth of Kent and maximising benefits for nature.

5.6 Agricultural practices

High input farming has been a feature of post war agriculture and the move to bigger farms, bigger machinery and monocultures has resulted in the removal of hedges and reduction of field margins. Horticulture, once common to Kent such as traditional orchard management, has been on the decline for decades, being found by many growers to be economically unviable. Changes to the way in which the land is used not only results in it visually transforming but also has significant impacts for the quality of the environment and wildlife.

Intensive approaches have contributed to soil health degradation, a decline in pollinators, eutrophication of water and bioaccumulation of harmful chemicals up through the food chain.

There has been an accompanying decline in farmland birds, such as Yellowhammer and Turtle Dove, and general bee and butterfly populations. Species once common on farmland such as the Lapwing, are now pushed to the coastal margins.

Loss of traditional land management techniques and skills, such as ditch management, hedge laying and coppicing, means that there is not always the expertise ready to hand to implement land management more sensitive to nature.

In some cases, lack of livestock and graziers, is due to insufficient or expensive fencing and a lack of local abattoirs. This is to the detriment not only of the viability of this type of farming, but also to the habitat and species it supports – freshwater marshes and wading birds being a good example.

Regenerative farming practices, which focus on soil health rather than chemicals, and other nature-friendly farming practices are now on the rise, but the move to such practices is not always easy, especially if the initial transition is more costly. Concerns over impacts on yield and associated incomes means that there can be a reluctance to move away from herbicides, pesticides and synthetic fertiliser and these are all still being widely used, sometimes excessively.

Financial drivers and new demands, such as the need for biofuels and produce outside of their growing season, is seen to be driving intensification in new ways. The use of polytunnels is increasing in some areas, resulting in habitat loss and can also have other environmental impacts, such as increased run-off and soil degradation.

Economic pressures could lead to a prioritising of survival, maximising land use and income, over sustainable practices. Competing demands on land is the biggest problem facing the landscape.

New types of land use such as vineyards are also becoming more common in Kent, as annual temperatures rise and because our chalk geology is suitable. When carried out with nature in mind, this could be a positive trend, as vineyards tend to not use all the land, but there are concerns about areas of chalk grassland being taken over and the sustainability of some practices.

5.7 Land management practices

Most of our woodlands need some sort of management for wildlife to thrive and traditional practices such as coppicing, which have declined over the years, have helped to provide that management.

Wood lotting or the dividing up of woodland for sale results in inconsistent management and fragmentation, while close linear planting is not good for wildlife and results in woodland with little understory for flowers and butterflies and no deadwood for invertebrates.

Deer are increasingly becoming a destructive pest in some woodland habitats, stopping natural regeneration by eating saplings and damaging woodland through bark stripping.

A lack of grazing on chalk, neutral, acid and maritime grasslands has meant that many areas have been lost to successional scrub habitats. Despite scrub not being welcome on these grassland habitats, it is in itself an important habitat but one that is often underappreciated and overlooked in terms of the wildlife value it provides Although a lack of management is responsible for a lot of degraded habitats in the county, over-management and a leaning towards “tidy” has meant that road verges, sea walls and amenity areas have been intensively mowed and cleared of “messy” scrub, where these areas could be providing habitat for wildlife.

5.8 Game hunting, wildfowling, game fishing and coarse fishing

The hunting and shooting of animals can be a contentious issue within nature conservation circles, but as shown by a 2020 Natural England review of gamebird releases and shoots, the impacts of this activity can be both positive and negative and the picture is often quite complex.

Within Kent, gamebird shooting and wildfowling are two common sporting pursuits, with the former mainly relating to the shooting of Pheasants and Red-legged Partridges, normally reared under captive conditions before being released in woodland and on farmland. Released gamebirds themselves have effects on the fauna and flora of the habitats into which they are released, and their release is accompanied by habitat and other management activities which also have a range of effects on habitats and wildlife.

The Natural England review found that the consequences of associated land management was largely positive, typically accompanied by increases in numbers or diversity of plants, invertebrates and non-game vertebrates. Most of the negative impacts come from the released birds themselves with impacts including soil disturbance, nutrient enrichment of soil and water, reductions in non-woody plants and reduction in abundance and/or diversity of some invertebrates. There is also evidence of negative effects on reptiles and sensitive lichens, but these occurred in very specific conflicts with nature conservation interests.

Perhaps unsurprisingly, the negative impacts are most greatly observed as the density of released birds is increased. As with most activities in the natural environment, when operated to best practice, negative impacts can be ameliorated and positive outcomes enhanced.

The other opportunity for nature from land management is related to wildfowling. The shooting of wild duck, geese and certain wading birds is an affiliated activity that also occurs in Kent, with areas of wetland managed for this purpose to provide habitat such as marsh land and reedbed.

Despite the potential benefits to nature, there still remain concerns in the UK – particularly in relation to unsustainable and illegal management practices. Conservation charities have raised concerns regarding the illegal killing of birds of prey, the use of lead ammunition and the release of millions of non-native species into the natural environment. With the overall impact of game hunting and wildfowling unclear, it is important to note the potential pressures and challenges this may place on nature recovery in the county whilst recognising, and not missing, the opportunities the activity may also present to deliver gains.

Game fishing for eating and coarse fishing, where species are typically returned to the water, are popular activities with generally a low impact on nature. However, when best practice is not followed, discarded or lost recreational fishing gear (including lines, fishing tackle, nets, and traps) remain in the environment for years.

In addition, the fencing of water bodies used for fishing; to exclude humans and predators, can have an impact on the movement of animals, including waterfowl.

5.9 Diseases and invasive and non-native species

As a gateway to Europe – resulting from both geography and infrastructure – Kent is the first stop for many invasive species and diseases from Europe and further afield. This can include species from across the globe, transported in food produce or in ballast water in hulls of ships, which become truly invasive, outcompeting native wildlife or causing disease in native species and in humans. Or can simply be through species making their own passage. Not unique to Kent, but still an issue, is the use of non-native plants in landscaping, which then spread to natural areas.

Ash dieback is a prime example, which has had a huge impact on the native population of ash trees in Kent and Medway, changing the landscape of the county and a habitat so many species depended on. Dutch Elm disease is another example of a tree disease that saw vast numbers of elm trees wiped out across the county over the past 50 years.

Kent's waterways have been impacted by a number of invasive species including the plants Himalayan Balsam, Floating Pennywort and Giant and Japanese Knotweed. Invasive animals include Signal Crayfish and American Mink. On our coastline, there are issues with the Carpet Sea Squirt, Brushed Clawed Crabs and Pacific Oyster, all of which outcompete and displace native species, altering the structure and function of our coastal ecosystems.

Non-native plants have also affected terrestrial habitats, with Rhododendron taking over areas of native woodlands and Cotoneaster spreading on chalk grassland.

Various management and monitoring programmes are in place within the county, but the threat of new invasives and non-natives is always a risk given the Kent and Medway geography.

However not all migrant species will be unwelcome and as a result of a changing climate, we will see new species move into the county. The challenge for nature recovery is determining which will add and enhance our ecosystems and which will cause harm.

5.10 Lack of funding and resources

The lack of funding and resources has a big influence on nature recovery and is, in fact, a driver for nature degradation. Even protected sites are not always afforded that protection, because of insufficient management, enforcement and policing – linked to insufficient funding and resources.

Many of our most valued sites are in unfavourable condition and for those that are protected, it may be questionable if they are still managing to fully support the features they were originally designated for. This is not because of lack of care or interest on the part of the landowner. Habitat management can be costly and time consuming – and often that investment will not generate any economic returns that can be reinvested. Management is also complex – one size does not fit all and often approaches need adjustments depending on the time of year, the environmental conditions or the response of the habitat and species. It is something that requires specialist knowledge and input.

Funding for nature restoration, enhancement or creation is often associated with a time-limited project and whilst the achievements of such projects can be significant, they can be short-lived if there is no onward investment to manage and maintain the gains. Funding is also regularly targeted towards capital works and does not always provide for the personnel needed to support, coordinate and deliver the nature recovery action.

Central investment in the natural environment can be short-term as well, designed to fit around current policy and priorities which can change from one government term to another. Any uncertainty relating to financing and grants can be a big deterrent to a landowner considering entering into agreements for nature recovery.

Green financing and investment approaches are welcomed but they are not necessarily the quick fix to problem of under-funding. Markets are developing and there is a wariness about approaches, often borne out of a lack of knowledge and understanding. And the lack of regulation and standards, that would ensure that the environment remains the core consideration, is also seen as a barrier.

Delivering nature recovery alongside nature-based solutions, and drawing investment from sources that might not otherwise be open to such actions, may prove an effective approach. However, this still relies on there being the public money available for these public services. Many public services are struggling to deliver the infrastructure they are required to within the grants received, so additional biodiversity gains alongside these can be difficult.

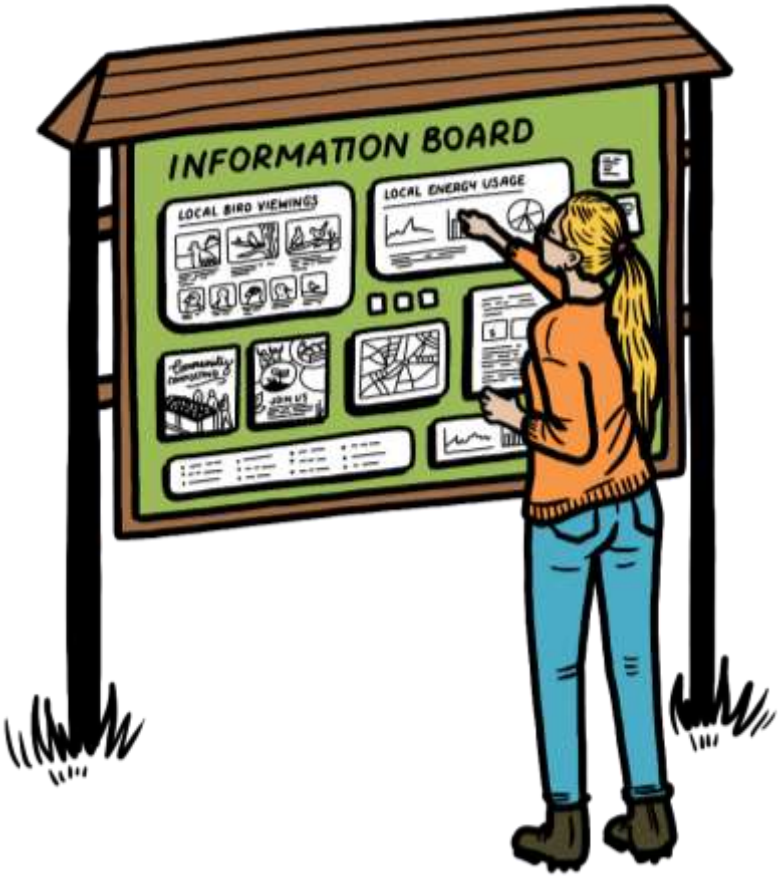
Whilst this pressure is not something that the Local Nature Recovery Strategy can directly address, by targeting action to where it is most needed, where it will deliver the greatest benefit and where there may be the potential to deliver nature-based solutions, it does mean that the best is made with what little resources there may be. And the county is ready to take advantage of any investment that might be forthcoming, for the benefit of nature recovery.

5.11 Lack of data, evidence and understanding

There are various gaps in the data for certain habitats and species, and data can go out of date quickly. This was a point commonly raised by stakeholders during development of the Strategy and an issue that is picked up in various sections.

The impact of a lack of data means that issues are not always identified, the evidence for action and funding is, in some cases, insufficient and we don't always have a reliable baseline on which to measure progress.

Sometimes important decisions are held back due to a lack of data. For instance, species reintroductions, which could aid the development of functional ecosystems being blocked on this basis. An evidence base on the impacts of reintroductions is essential, but often there is no policy and funding support linked to this.



6. Strategic context for the Kent and Medway Local Nature Recovery Strategy

The Kent and Medway Local Nature Recovery Strategy sits within a framework of national and local strategies, plans and regulations. Understanding these, and considering them within the development of our priorities for nature, ensures our priorities for nature are consistent across the county and joined-up, our ambitions are framed within existing delivery mechanisms and opportunities for mutual support of priorities and delivery of measures are identified.

6.1 Local strategic context for the Kent and Medway Local Nature Recovery Strategy – local plans

The National Planning Policy Framework requires local plans to contribute to and enhance the natural and local environment – consequently, the county's local planning authorities already have identified priorities and plans for biodiversity.

In setting the criteria for what the Kent and Medway Local Nature Recovery Strategy would include as its priorities, it was agreed that one of the considerations should be the alignment to common and consistent priorities from existing and emerging local plans across the county.

In addition, where ambitions within local plans and associated strategies went into more detail, this also provided outline action on which potential measures could be framed.

Consideration of the county's local plans in this regard would help find the balance between producing a Local Nature Recovery Strategy that was not only ambitious but also deliverable, working with existing local policy frameworks and the delivery mechanisms for nature recovery that they provide. It was also an opportunity to identify opportunities for collaborative and focussed action, where priorities aligned. A thorough review of the Strategy area's local plans and other relevant strategies was undertaken. The full details of the review can be found in Appendix 2.1 and a summary is provided below.

6.1.1 Opportunities to address shared pressures, threats and challenges at the local level

All areas have growth and development targets, which results in development pressures. Alongside this is the need to provide the infrastructure to support this growth. Whilst development aims to be sustainable and minimise environmental impacts, land take, habitat fragmentation and other residual environmental impact is inevitable. Without significant mitigation and compensation measures being secured, habitats and ecosystem services will be significantly degraded.

Flood risk is another significant threat across all the county – whether that be coastal, fluvial or surface water – and this risk increases with climate change bringing more extreme weather. With Kent being a coastal county, it is not surprising that coastal changes, erosion, land loss and flooding are a challenge for many local planning authorities in the county.

Water quality and quantity is another challenge shared by all, with issues with both security of supply and pollution a concern. The impacts of climate change and the effect this has on the population's health, wellbeing, and risks to living conditions are also a threat.

The other pressures, threats and challenges discussed in the section above are experienced by more than one, and sometimes the majority of the district or borough.

Many of the pressures, threats and challenges felt at the local level occur on a landscape scale and often across administrative boundaries. Flood risk management, water supply and pollution and habitat fragmentation are just some of the challenges best addressed on a scale that goes beyond one district. Hence the Local Nature Recovery Strategy provides the shared vision and framework to enable this collaboration and address matters in a functional way, especially where nature-based solutions can offer multiple benefits to multiple districts when implemented at a strategic level.

6.1.2 Opportunities to collaboratively restore, enhance and create habitats

All districts refer to and endorse the aims and objectives of the Kent Biodiversity Strategy 2020, demonstrating an aspiration to maintain, restore and create habitats that are thriving with wildlife and plants, and ensure the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health. Whilst framed slightly differently, the Kent and Medway Local Nature Recovery Strategy will be aiming to achieve the same and provides an updated and spatially framed collaborative approach for nature recovery.

All districts place the same importance of retaining their green and blue infrastructure networks and using management and implementation plans to do so. The majority have a green infrastructure strategy of some form underpinning this, with plans and mapping for how and where these networks can be restored and enhanced. This provides useful evidence for the Local Nature Recovery Strategy in determining where urban greening can provide mutual benefits to both nature and people. The protection of trees and woodlands are a priority shared by most districts and boroughs as well as safeguarding the green gaps between settlements or districts. The Local Nature Recovery Strategy will not only support such aspirations but by framing the important role of green and blue infrastructure in supporting nature recovery, may also open up opportunities for funding and investment to support the enhancement and extension of such natural assets. Further to retention, the county's authorities also aim to create habitat to further strengthen their green and blue infrastructure networks. For many, woodland creation and tree planting is a top priority for habitat creation.

The importance of development integrating green and blue infrastructure is evident throughout the local plans. Incorporating biodiversity into new developments, enhancing the green and blue infrastructure corridors, the use of urban greening, the retention of original trees and hedgerows and new open space provision are some shared approaches. The Local Nature Recovery Strategy can assist these authorities in targeting and focussing such actions on what will deliver the greatest gains for nature and wider benefits for their existing and new local communities.

Plans also recognise the need for development to provide surface water management, water quality and quantity management, and adaptation and mitigation of climate change impacts. Where such challenges are restricting necessary housing development, working with nature may provide a solution that also delivers benefits to the local wildlife as well.

Biodiversity Net Gain provides a mechanism by which development can support nature recovery. The Local Nature Recovery Strategy will have a critical role in ensuring that the gains derived through this new, mandatory requirement make a meaningful contribution to the local biodiversity and are directed to where this contribution is most needed. Recognising the potential of Biodiversity Net Gain, several district and boroughs have ambitions to deliver beyond the mandatory 10%; to make the most of this opportunity the strategy must ensure it is fit for the purposes of informing net gain.

6.1.3 Opportunities to support wider environmental goals through nature recovery

Kent and Medway's districts and boroughs all share priorities relating to wider environmental benefits, the most common being good air quality, clean and plentiful water, climate change mitigation and adaptation, enhancement of the natural environment and built heritage, health and wellbeing and access to, and engagement with, the natural environment. They all also have net zero commitments.

Working with nature, and using nature-based solutions, these priorities can be addressed.

6.2 Local strategic context for the Kent and Medway Local Nature Recovery Strategy – other relevant spatial plans in Kent and Medway

In addition to local plans, there are a lot of other strategies, plans and policies in place that were considered in the development of the Local Nature Recovery Strategy. In the same way as local plans, these provided a steer on other environmental priorities in the county that the Strategy should work with and potentially align to; and also provided possible actions to be used as a basis for the Local Nature Recovery Strategy potential measures.

Further, where these strategies and plans are also spatially framed, this has provided evidence to inform the mapping of the Strategy's potential measures.

The intention is to produce a Local Nature Recovery Strategy that would be deliverable within the county's existing strategic frameworks and identify opportunities for collaborative and focussed action, where priorities aligned.

The strategies, plans and policies that have been reviewed are:

- Catchment Flood Management Plans for North Kent, River Stour, River Medway River Darent & Cray and River Rother
- High Weald and Kent Downs National Landscape Management Plans
- Kent Biodiversity Strategy
- Kent Climate Change Adaption Plan
- Kent County Parks Strategy
- Kent District Level Licensing Scheme for Great Crested Newts Strategy
- Kent and Medway Energy and Low Emissions Strategy
- Kent Local Flood Risk Management Strategy
- Kent Local Transport Plan
- Kent Joint Health & Wellbeing Strategy
- Kent Minerals and Waste Local Plan
- Kent Plan Bee
- Kent Plan Tree
- Kent Rights of Way Improvement Plan
- Local green infrastructure strategies

- Medway Rights of Way Improvement Plan
- Medway Joint Health & Wellbeing Strategy
- NHS Kent and Medway Green Plan
- Preliminary flood risk assessment for Kent
- Preliminary flood risk assessment for Medway
- River Basin Management Plan for South-East
- Shoreline Management Plans for River Medway and Swale Estuary; Isle of Grain to South Foreland; and South Foreland to Beachy Head
- Surface water management plans

Appendix 2.3 provides more detail on how they have informed the Strategy.

6.3 National Strategic context for the Kent and Medway LNRS

As well as considering the local strategic priorities and policies, the future priorities of the Local Nature Recovery Strategy were also developed in consideration of the contribution they could make to the national targets and ambitions for nature recovery. An overview of those that informed the selection of Kent and Medway's priorities is provided below.

6.3.1 Environment Act 2021 and Environmental Improvement Plan 2023

The Environment Act 2021 sets national targets that all 48 Local Nature Recovery Strategies are expected to contribute to. These include:

Environmental Act 2021 nature recovery targets:

- Restore or create in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels.
- Halt the decline of species abundance by 2030. Ensure that species abundance in 2042 is greater than in 2022, and at least 10% greater than 2030.
- Reduce the risk of species' extinction by 2042, when compared to the risk of species' extinction in 2022.
- Increase total tree and woodland cover from 14.5% of land area now to 16.5% by 2050.
- Reduce nitrogen, phosphorus and sediment pollution from agriculture into the water environment by at least 40% by 2038, compared to a 2018 baseline.

The Environmental Improvement Plan 2023 makes further commitments, again that should be supported by the Local Nature Recovery Strategies:

- Work to ensure that everyone in England lives within 15 minutes' walk of a green or blue space.
- Restore approximately 280,000 hectares of peatland in England by 2050.
- Restore 75% of our water bodies to good ecological status.
- Protect 30% of land and of sea in the UK for nature's recovery by 2030.

- Support farmers to create or restore 30,000 miles of hedgerows by 2037 and 45,000 miles of hedgerows by 2050.
- Manage our woodlands for biodiversity, climate and sustainable forestry.
- Restore 75% of Sites of Special Scientific Interest to favourable condition by 2042. By 31 January 2028 50% of SSSIs will have actions on track to achieve favourable condition.
- Ensure delivery & management of actions & policies that contribute towards our 25 Year Environmental Plan goals are suitable & adaptive to a changing climate.
- Make sure Local Nature Recovery Strategies include proposals for Nature-based Solutions which improve flood risk management where appropriate.
- Achieve Good Environmental Status for our seas.
- Reduce emissions of nitrogen oxides by 73% and ammonia by 16% by 2030 relative to 2005 levels.
- Reducing the rates of introduction and establishment of invasive non-native species by at least 50%, by 2030.

6.3.2 Delivering 30by30 on land in England 2023

In 2020, the government committed to protecting 30% of the UK's land by 2030 (30by30) – it will deliver this by:

- Strengthening: ensure effective policy and statutory safeguards and powers are in place to improve management for nature, prevent degradation and ensure appropriate access for people.
- Extending and creating: designate new protected areas and restore or create wildlife rich habitat outside of these.
- Investing: invest in habitat restoration across our protected areas and beyond.

Local Nature Recovery Strategies will identify opportunities to create and improve wildlife-rich habitat which could, where protection or agreements for ongoing management are in place, contribute to meeting the 30by30 goal.

6.3.3 Nature Recovery Network

The Nature Recovery Network is a growing national network of wildlife-rich places, stretching from our cities to countryside, mountains to coast. It is supported by green and blue spaces that buffer and connect these wildlife-rich sites.

Growing the network involves prioritising and mapping actions, with Local Nature Recovery Strategies at the centre of this. The Local Nature Recovery Strategy's spatially-framed proposed actions, when implemented, will contribute to expanding the Nature Recovery Network. And the Local Nature Recovery Strategy partnership framework will facilitate and lead the collaboration necessary to deliver this growth

6.3.4 Protected Landscapes Targets and Outcomes Framework

The Protected Landscapes Targets and Outcomes Framework sets out targets for National Parks and National Landscapes aimed at supporting Protected Landscapes meet their huge potential for nature, climate, people and place.

Local Nature Recovery Strategies are noted as an important evidence base to aid effective planning for nature recovery activities as part of the Protected Landscapes' management plans. These activities within National Landscapes should be working towards the following targets, which aim to deliver thriving plants and wildlife:

1. Restore or create more than 250,000 hectares of a range of wildlife-rich habitats within Protected Landscapes, outside protected sites by 2042 (from a 2022 baseline).
2. Bring 80% of SSSIs within Protected Landscapes into favourable condition by 2042.
3. For 60% of SSSIs within Protected Landscapes assessed as having 'actions on track' to achieve favourable condition by 31 January 2028.
4. Continuing favourable management of all existing priority habitat already in favourable condition outside of SSSIs (from a 2022 baseline) and increasing to include all newly restored or created habitat through Agri-environment schemes by 2042.
5. Ensuring at least 65% to 80% of land managers adopt nature friendly farming on at least 10% to 15% of their land by 2030.

6.3.5 Other national strategies and policies

There are a plethora of other national strategies and policies relating to wider environmental improvements that the Local Nature Recovery Strategy can, and should, make a contribution. This could be directly, for instance aligning the priorities for our rivers and streams to support the ambitions of the Chalk Stream Strategy; or could indirectly support, through the benefits provided by nature-based solutions, such as supporting the targets of the Clean Air Strategy.

There are other strategies and policies that need to be considered so that the priorities for nature recovery in Kent and Medway do not unintentionally undermine or cause issue for. For instance, in mapping our potential measures we do not conflict with other land use priorities, such as food security.

All national strategies considered in preparation of the Kent and Medway Local Nature Recovery Strategy are outlined in Appendix 2.2.

6.4 Other influences for the Strategy

Recognising the potential of Local Nature Recovery Strategies to provide for specific species and habitats, a number of nature conservation and species charities and

groups have produced guidance for responsible authorities. These have been reviewed in the preparation of the Kent and Medway Local Nature Recovery Strategy. Not only have these informed the priorities, particularly in regard to the priority species, but they were also used to develop a long list of possible actions from which the Strategy's potential measures were informed.

Species and habitat focused guidance considered in the preparation of the Kent and Medway Local Nature Recovery Strategy:

- Plantlife – How to Design your Local Nature Recovery Strategy to Deliver for Plants and Fungi.
- Buglife – Delivering for Invertebrates in Local Nature Recovery Strategies.
- Amphibian and Reptile Conservation – Design your Local Nature Recovery Strategy to Deliver for Amphibians and Reptiles.
- Bat Conservation Trust – Taking bats into account in Local Nature Recovery Strategies.
- Floodplain Meadows Partnership – Floodplain Meadows in Local Nature Recovery Strategy.
- Bumblebee Conservation Trust – Local Nature Recovery Strategies: a guide to help bumblebees thrive.
- People's Trust for Endangered Species – Our guidance for designing Local Nature Recovery Strategies.
- Freshwater Habitats Trust – Incorporating small freshwater habitats into your Local Nature Recovery Strategy.
- Big Chalk – Big Chalk and Local Nature Recovery Strategies.

7. Nature recovery opportunities in Kent and Medway

7.1 Building on a solid platform of action for nature

The 2022 State of Nature in Kent report showed that when action is joined up, with all organisations playing a role, the outcomes for nature have been dramatic.

The report also found that Kent has an extraordinary breadth and depth of skills and experience across the public and third sectors that is at the disposal of nature recovery actions in the county.

This resource has been critical to the development of the Local Nature Recovery Strategy, with the Strategy now providing a framework for collaboration and an opportunity to engage the public, private and third sectors in a dynamic way, to leverage funding from all into delivering nature recovery at a scale commensurate with the crisis. This represents not only the most challenging time the conservation of nature has faced in the UK, but also the greatest opportunity, to work differently and bring new resourcing to bear in a way which has not been done before.

Whilst the Local Nature Recovery Strategy provides a renewed focus and new approach to delivering nature recovery in the county, we are not starting from ground zero and there have been many achievements in the county to build on and learn from.

7.1.1 Restoring landscapes

Over the last decade we have seen the conservation community across Kent embrace, and begin to implement, the Lawton principles (2010) through their collective work to drive forward nature's recovery at a landscape-scale. At the heart of the most significant and successful landscape-scale schemes that have been conceived and subsequently delivered in the county over the last decade, has been an understanding of the value of working collectively and a demonstrable willingness to collaborate.

An example of this can be seen across the Kent Downs landscape, in which a significant proportion of globally-rare chalk grassland resource can be found. Here a suite of landscape-scale partnership projects has been conceived and delivered to reinstate management, and consequently restore and reconnect these nature-rich, chalk grassland habitats. In less than 15 years, projects have collectively restored more than 341 ha of chalk grassland.

Agri-environment schemes have also proved a valuable mechanism for delivering landscape-scale restoration across the farmed landscape. In the East Kent Downs, where, over the last decade, continued engagement of farmers with their local Natural England advisor has resulted in the transformation of 900 ha of formerly arable or species-poor grassland. Through natural regeneration, green hay

spreading and the sowing of native wildflower mixtures, these areas are now wildflower-rich habitats.

Supporting land-use change in the farmed landscape remains integral to promoting nature's recovery across the county. The Farmers Cluster model advocated in Kent continues to grow to enable and support collective action from farmers and land managers in discrete geographical areas. An example of this is the Marden Cluster, who are working together to restore and extend lowland meadow, a species-rich but depleted habitat in Kent, across the Low Weald.

Larger conservation organisations in the county have delineated focus areas to create bigger, better, and more resilient landscapes for people and wildlife. Such working between these land owning organisations has allowed the joining of habitats into functionally-linked networks, as has been seen in the newly established North Kent Downs and Woods National Nature Reserve, and also the Blean complex where Kent Wildlife Trust and RSPB have worked together.

7.1.2 Increasing nature in urban areas

Since 1994, Kent Wildlife Trust and Kent Highways have been working together to create a network of Roadside Nature Reserves across the county. There are now around 150 Roadside Nature Reserves in Kent and Medway, with around 89 km of roadside protected and managed by volunteers across the county, supporting important species and habitats, and providing are also valuable wildlife corridors.

Local initiatives also encourage nature friendly gardening, with advice, support and awards used to encourage action.

There is also a wealth of community, friends of and voluntary groups working tirelessly to manage urban greenspaces for the benefit of both wildlife and people. These groups represent a massive army of support on the ground for the delivery of the Local Nature Recovery Strategy potential measures.

7.1.3 Improving environmental quality

Conservation efforts such as Natural England's Catchment Sensitive Farming Scheme, are helping to improve water quality by reducing nutrients entering water courses through the planting of buffer strips, fencing livestock, and improving farming practices. Such projects, together with improvements at sewage treatment works and regulation changes, have seen 16 rivers in Kent improve their phosphate classifications since 2015.

This reduction in nutrient loading means the impact from lower river flows on water quality will be reduced, which in turn improves river species' ability to withstand the seasonal extremes associated with climate change.

7.1.4 Species

Most nature conservation in the British Isles is focused on the management of habitats, based on the adage 'build it and they will come'. This is certainly true in Kent where much of the county's conservation work has focused on the management of habitats to improve, enhance and/or extend. Although this provides better and more habitat, this action alone is not always sufficient to prevent threatened species decline or restore populations to their former ranges.

Common habitat manipulation practices including scrub removal, flood management, and creation of islands or floating rafts, coupled with predator management have been successfully applied in Kent to see increases in nesting success of Little Terns at Sandwich Bay and Castle Coote, and Lapwing on the South Sheppey Marshes.

Kent has also seen the translocation of several threatened species that has resulted in improvements in their local conservation status, including Great Crested Newt, European Water Vole, European Beaver, Sand Lizard, Monkey Orchid and the Silver Spotted Skipper.

At a more local scale, the provision of artificial hibernacula, refugia, and nest sites for birds, bats, small mammals, reptiles, and amphibians is widely implemented to mitigate some of the habitat and nest site deficiencies.

7.1.5 Coastal and marine

Some of the most effective Kent and Medway projects and initiatives of the last ten years or so, have been around reducing wildlife disturbance or destruction at the coast.

Bird Wise is an initiative to manage wildlife disturbance along the coast in North and East Kent. A team of officer's, funded through housing tariffs, work on the coast to engage and meet people, promote the codes of conduct and advise on bird disturbance.

Another success story is “Coastbusters”. Launched in 2012, this volunteer task force was trained and kitted out to tackle the invasive Pacific Oyster and Japanese Wireweed. As a result of their efforts, the Pacific Oyster population at the National Nature Reserve at Pegwell Bay has been reduced and stabilised, and reef formation has been prevented. In addition, the loss of an important intertidal mussel bed has been avoided, further establishment has not occurred, and the protected chalk substrate is maintained.

7.1.6 Community Groups

Across the county, community groups are making a considerable contribution to nature recovery. Operating in a largely voluntary capacity, these groups rely on dedicated individuals committing time and energy to improving and safeguarding the natural environment in their local area. In Thanet, Dane Valley Woods was established in 2003 on a 12-acre former landfill site, with the ambition of increasing tree numbers in an area with very low canopy cover. Today, Dane Valley Woods is home to 6450 trees of 36 different species, as well as 265 species of birds, mammals, invertebrates, reptiles and amphibians, and provides much needed greenspace to local residents.

On the other side of Kent, High Weald Swifts work with local schools and residents to install nesting boxes for Swifts, helping to bolster their numbers in the face of habitat loss and reduced insect populations.

The Canterbury Biodiversity Network was established during the lockdown of 2020, with the aim of bringing together projects that were working to support local biodiversity and enabling volunteers to become involved in conservation projects in the area.

These are just a few examples of hundreds of community initiatives that are active in Kent, whose combined work is vital to nature recovery on a landscape scale in the county.

7.2 Realising the opportunities for recovering nature in Kent and Medway

The Kent and Medway Local Nature Recovery Strategy presents an opportunity to build on these gains and provide a framework for the collaborative and landscape-scale action needed to recover nature in the county. It will:

- Consider the landscape character, the catchment functions and ecosystem links across the county.
- Focus on addressing the most significant impacts arising from the pressures and challenges facing nature.
- Ensure our most significant and important habitats, locally and nationally, remain the target of efforts.
- Concentrate on habitats that are threatened in extent and degraded in quality or are at risk from climate change.
- For the first time in Kent, give detailed consideration to the needs of threatened species within habitat management, identifying bespoke interventions needed and ensuring that any management considers species requirements within the habitats they're associated with.
- Look at how it can support both the local and national priorities and ambitions for nature, green and blue infrastructure and the wider environment.
- Identify the actions and delivery mechanisms needed to achieve the priorities for the county's nature, and target these to the areas of the county that are in most need of action and/or wider benefits can be delivered.
- Maximise opportunities for delivering nature-based solutions by directing action to where the design of nature recovery action can also deliver environmental improvements that are needed in that area.

Part 3

Statement of Biodiversity Priorities

Better, bigger, more and joined up – the overarching principles for nature recovery in Kent and Medway

In order for the county's nature to respond and adapt to the increasing challenges of climate change, as well as the other pressures and challenges it faces, we need to ensure the Local Nature Recovery Strategy for Kent and Medway is applying the principles of Lawton. We are building on these and reframing them slightly to provide a hierarchy for action; that being – better, bigger, more and joined up.

In applying these principles across the Strategy, we will not only support the recovery of nature but also ensure that our habitats and species have the ability and space to respond and adapt to the impacts of climate change, by enabling dynamic habitats and increasing resilience. It also means that there is room for nature, alongside the many competing demands for land in our county, and that the many pressures facing nature are tackled in a more strategic and ecosystem-led approach.

The overarching principles of the Kent and Medway Local Nature Recovery Strategy are:

- **Better** – improve the quality of our existing habitats and ensure they are in a healthy and functioning state, by applying and resourcing better and appropriate management. We also need to better conserve and safeguard what we already have.

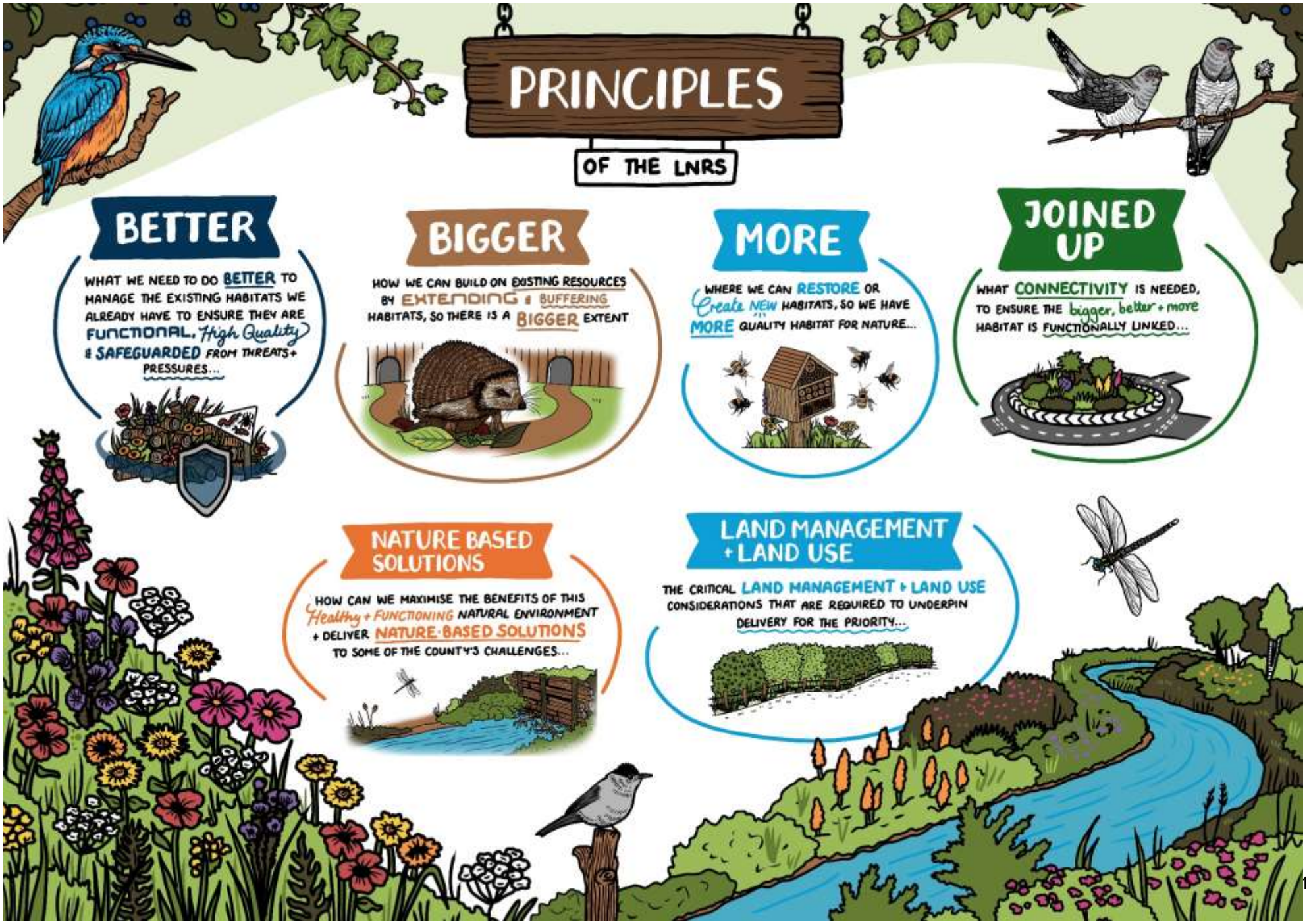
- **Bigger** – increase the size of our most valuable and important habitat sites, not only extending but buffering, to protect them from the pressures of human influences.

- **More** – through habitat restoration and creation, establish new, nature-rich sites that not only provide more space for nature but also provide connectivity between existing core sites.

- **Joined up** – enhance connections between, and join up, sites, through improving the quality of the land that exists between, creating new physical corridors, and establishing 'stepping stones.

- **Nature-based solutions** – work with nature and use natural processes to tackle some of the socio-economic challenges our county faces, maximising the benefits of nature recovery.

- **Land management and land use** – increase the number landowners, land managers and farmers utilising nature friendly and habitat sensitive land management and land use practices, recognising the crucial role they have to play in helping to deliver a better, more coherent and resilient wildlife network across the county.


PRINCIPLES
OF THE LNRS
BETTER
WHAT WE NEED TO DO BETTER TO MANAGE THE EXISTING HABITATS WE ALREADY HAVE TO ENSURE THEY ARE FUNCTIONAL, High Quality & SAFEGUARDED FROM THREATS + PRESSURES...
BIGGER
HOW WE CAN BUILD ON EXISTING RESOURCES BY EXTENDING & BUFFERING HABITATS, SO THERE IS A BIGGER EXTENT
MORE
WHERE WE CAN RESTORE OR Create NEW HABITATS, SO WE HAVE MORE QUALITY HABITAT FOR NATURE...
JOINED UP
WHAT CONNECTIVITY IS NEEDED, TO ENSURE THE bigger, better + more HABITAT IS FUNCTIONALLY LINKED...
NATURE BASED SOLUTIONS
HOW CAN WE MAXIMISE THE BENEFITS OF THIS Healthy + FUNCTIONING NATURAL ENVIRONMENT + DELIVER NATURE-BASED SOLUTIONS TO SOME OF THE COUNTY'S CHALLENGES...
LAND MANAGEMENT + LAND USE
THE CRITICAL LAND MANAGEMENT + LAND USE CONSIDERATIONS THAT ARE REQUIRED TO UNDERPIN DELIVERY FOR THE PRIORITY...

The building blocks of nature recovery

As our areas of particular importance for biodiversity shows, we already have significant areas of the county that are of immense value and significance for the counties, and in fact England's, natural heritage.

On top of this we also have a wealth of other areas whose management, whether through public sector organisations, voluntary groups, charities, farmers and landowners, is contributing to the protection and enhancement of Kent and Medway's habitats and species.

It is therefore important to understand that the Kent and Medway Local Nature Recovery Strategy is not starting from scratch nor from a point of inaction. But we're also not starting from a point of perfection. We know that many of our protected sites are in unfavourable condition, that our wildlife is declining, and our habitats are degraded. This is why our principles start with better – improving and safeguarding what we already have. There is little point creating new habitat to extend or connect poor quality, unhealthy and non-functioning existing habitat.

And it is why we have chosen to map our areas that could become of importance for biodiversity on the basis of connectivity and buffering and/or linking of areas of particular importance with the wider landscape. In doing so, we give nature the space and resilience it needs to recover.

Kent and Medway's Vision for Nature Recovery

The Kent and Medway Nature Recovery Strategy has ten ambitions for nature recovery, that our more detailed priorities and potential measures are structured around. The first three of these expand further on the overarching principles, expressing the outcomes for connectivity, nature-based solutions and land management and land use.

Following these are six ambitions that focus on broad habitat groupings and the aspirations we have for our grassland, successional, wooded, freshwater, urban and coastal ecosystems. The tenth ambition relates to the Strategy area's priority species and their recovery.

1. **Connectivity** – High quality habitats are connected at both a county and local scale, providing more linked natural space for nature to thrive in and a landscape that wildlife can move through and adapt to change in.

2. **Nature-based solutions** – Through safeguarding, management and restoration of the county's ecosystems, we enhance our resilience to climate change, deliver environmental improvements, address health and societal inequalities, and promote well-being, whilst advancing nature recovery.

3. **Land management and land use** – Land management and land use throughout Kent and Medway not only meets the economic and social needs of the county but also delivers nature recovery gains.

4. **Grasslands** – Our existing grasslands are conserved, with appropriate management returned to restore, connect and extend these habitats to deliver high quality, species-rich areas across the county.

5. **Successional habitats** – The structural diversity of open mosaic (brownfield) habitat found on previously developed land and low-level scrub is safeguarded from loss and damage, for the benefit of species that rely on early successional habitats.

6. **Woodland, trees and hedgerows** – Kent and Medway's native woodland, trees and hedgerows are safeguarded from loss and under appropriate and active management, delivering robust ground flora and soil structures. A mixture of natural regeneration and new establishment, improves connectivity and provides an even greater contribution to climate change mitigation and resilience.

7. **Freshwater** – Our freshwater habitats are clean, sufficient and stable, in a healthy and good ecological state that supports an abundance and diversity of species. Catchments' functions are restored to deliver a connected mosaic of wet habitats, improving water quality and managing flood risk across the county.

8. **Urban** – Nature plays a central role in shaping the county's built-up environments, with wildlife provided for in a network of connected green and blue

spaces, which are also designed and managed to provide nature-based solutions to the challenges facing those living in urban areas.

9. **Coast** – Coastal and estuarine areas are allowed to evolve, with natural processes and progression restored, to enable adaption and resilience to climate change. Management of habitat succession is delivered strategically and holistically, to minimise loss and support a range of high functioning, connected coastal habitats.

10. **Species** – Habitat management, restoration, extension or creation is specifically targeted to halt the decline, and support the recovery, of the Strategy's priority and threatened species and in doing so, reduces the risk of losing species through extinction from the county.

AMBITIONS + PRIORITIES

AMBITION FOR CONNECTIVITY IN KENT + MEDWAY

HIGH QUALITY HABITATS are FUNCTIONALLY CONNECTED at BOTH a COUNTRY + LOCAL SCALE, PROVIDING MORE LINKED NATURAL SPACE for NATURE to THRIVE in a LANDSCAPE that WILDLIFE can MOVE THROUGH + ADAPT to CHANGE IN

PRIORITY CON 1

Country's key wildlife sites better connected by addressing the fragmentation + barriers preventing movement + species

PRIORITY CON 2

Fragmentation caused by arterial roads, railway + other major infrastructure retrospectively addressed, reconnecting habitats + wildlife pathways

PRIORITY CON 3

Habitats functionally connected at both a county + local scale, delivering bigger, better, more + joined up with no important wildlife habits, or species populations, left completely isolated

PRIORITY CON 4

Management of habitats + wilding approaches to deliver a connected mosaic of habitats at a large scale, where nature can flourish, + species requirements are considered

PRIORITY CON 5

Landscape scale management, with partners beyond the county, to address habitat change + species migration as a result of climate change

AMBITION FOR NATURE-BASED SOLUTIONS IN KENT

THROUGH ACTIONS to SAFEGUARD, MANAGE + RESTORE the COUNTRY'S ECOSYSTEMS WE MAXIMISE OUR RESILIENCE to the CHALLENGES of CLIMATE CHANGE, TACKLE HEALTH + SOCIETAL INEQUALITY + DELIVER WELL-BEING BENEFITS, WHILST SIMULTANEOUSLY RECOVERING NATURE

PRIORITY NBS1

Increase the extent of carbon sequestering habitats in the county, which are purposefully managed to function as a carbon store whilst prioritising a nature recovery

PRIORITY NBS2

Safeguard from loss + increase the functionality + extent of, habitats delivering critical ecosystem services in the county

PRIORITY NBS3

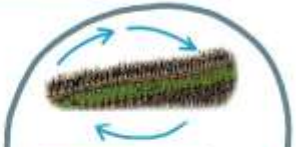
Improve soil health + structure by enhanced + improved soil management, so that it IS delivering better for invertebrates, carbon sequestration, water retention + management + production + provisioning services

AMBITION FOR LAND MANAGEMENT + LAND USE IN KENT + MEDWAY

LAND MANAGEMENT + LAND USE THROUGHOUT KENT + MEDWAY COUNTY NOT ONLY MEETS the ECONOMIC + SOCIAL NEEDS of the COUNTY, but ALSO DELIVERS NATURE RECOVERY GAIN

PRIORITY LM1

Increase the number of farms employing nature friendly farming practices, sensitive land management + delivering targeted action for nature recovery, resulting in farmland across the county that is rich in wildlife



PRIORITY LM2

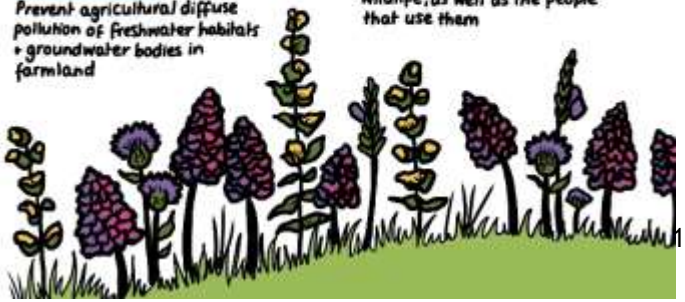
Farmland responding to climate change induced pressures with the help of nature

PRIORITY LM3

Prevent agricultural diffuse pollution of freshwater habitats + groundwater bodies in farmland

PRIORITY LM4

Publicly accessible open spaces managed to deliver benefits for wildlife, as well as the people that use them



AMBITIONS + PRIORITIES

AMBITION FOR GRASSLANDS IN KENT + MEDWAY

OUR EXISTING GRASSLANDS are CONSERVED, with APPROPRIATE MANAGEMENT RETURNED to RESTORE, CONNECT + EXTEND these HABITATS to DELIVER HIGH QUALITY, SPECIES RICH AREAS ACROSS the COUNTY

PRIORITY GL1

Chalk grasslands are safeguarded from land use changes + other threats + restored to a better + species-rich condition. They are connected + buffered across the landscape to promote ecological integrity + resilience, particularly for facilitating species movement in response to climate change

PRIORITY GL2

Existing coastal + floodplain grazing marsh restored to better condition + retaining more freshwater, with sensitive areas + the breeding waders they support, protected from land management + recreational disturbance. Opportunities taken to create + extend areas of this habitat + increase its climate resilience

PRIORITY GL3

Existing species-rich lowland meadow is safeguarded from loss, restored to better condition + extended through sensitive land management practices to reduce soil nutrient levels. Through the extension of lowland meadow, this habitat is better connected, reducing the risk of isolated meadow species + declines in species richness

PRIORITY GL4

Retain, restore + extend the county's acid grassland + heathland habitat mosaics, to improve the species diversity that these habitats, with limited extent in Kent + Medway, support

PRIORITY GL5

Safeguard, restore + increase fields with a diversity + abundance of arable wild plants

AMBITION FOR SUCCESSIONAL HABITATS IN KENT + MEDWAY

THE STRUCTURAL DIVERSITY of OPEN MOSAICS (BROWNFIELD) HABITAT FOUND on PREVIOUSLY DEVELOPED LAND + LOW-LEVEL SCRUB is SAFEGUARDED from LOSS + DAMAGE, for the BENEFIT of SPECIES that RELY ON EARLY SUCCESSIONAL HABITATS

PRIORITY SH1

Safeguard from loss + damage, open mosaic (brownfield) habitats found on previously developed land, that support priority species which rely on early successional habitats

PRIORITY SH2

Increase the extent of low level, scrub/ successional habitats, providing a mix of young + mature scrub to enable structural diversity + the support of a wide range of species. Link this scrub with hedgerows, woodland + other habitats to support wildlife corridors

AMBITION FOR WOODLAND, TREES + HEDGEROWS in KENT + MEDWAY

KENT + MEDWAY'S NATIVE WOODLAND, TREES + HEDGEROWS are SAFEGUARDED from LOSS + UNDER APPROPRIATE + ACTIVE MANAGEMENT, DELIVERING ROBUST GROUND FLORA + SOIL STRUCTURES. A MIXTURE of NATURAL REGENERATION + NEW ESTABLISHMENT, IMPROVES CONNECTIVITY + PROVIDES an EVEN GREATER CONTRIBUTION to CLIMATE CHANGE MITIGATION + RESILIENCE

PRIORITY WTH1

Retain + improve existing trees both inside + outside woodlands through active management + improvement of habitats for woodland species

PRIORITY WTH2

Increase the average canopy cover of Kent through trees both inside + outside woodlands

PRIORITY WTH3

Return the previously prolific ecological function of trees in Kent by restoring trees lost to disease, pests, climate change + drought

PRIORITY WTH4

Ensure the resilience of the county's woodlands

PRIORITY WTH5

Ancient woodlands + veteran trees are safeguarded from loss, buffered + better connected. Damaged areas are restored + invasive trees + plants are managed + removed

PRIORITY WTH6

Increase the extent of high quality wet woodland in the county + improve connectivity with the freshwater habitat network

PRIORITY WTH7

Retain + safeguard the high value's unique gill woodland's the plant species they support + the functions they provide for water river catchment

PRIORITY WTH8

The extent of species-rich hedgerows throughout the county is increased, with lost hedgerows replaced, gaps filled + management of existing hedgerows improving quantity/ quality. Hedgerows provide a consistent habitat network of shelter, resting + forage

PRIORITY WTH9

Increase in traditional orchards, under sensitive management, supporting an abundance + diversity of wildlife

PRIORITY WTH10

Appropriate deer management in woodland + connecting areas, on a landscape scale, to reduce impacts + support new planting + regeneration

AMBITIONS + PRIORITIES

AMBITION FOR FRESHWATER HABITAT IN KENT + MEDWAY

OUR FRESHWATER HABITATS are CLEAN, SUFFICIENT + STABLE, in a HEALTHY + GOOD ECOLOGICAL STATE that SUPPORTS an ABUNDANCE + DIVERSITY of SPECIES. CATCHMENTS' FUNCTIONS are RESTORED to DELIVER a CONNECTED MOSAIC of WET HABITATS, IMPROVING WATER QUALITY + MANAGING FLOOD RISK ACROSS the COUNTY

PRIORITY FW1

All rivers, streams + floodplains have a natural form, free from modifications + barriers - supporting good ecological status, natural processes + diverse native flora.

PRIORITY FW2

Freshwater habitats + groundwater bodies are supplied with clean water, safeguarded from, + able to withstand the impact of pollution

PRIORITY FW3

Freshwater habitats + groundwater bodies are supplied with sufficient water + resilient flows, supporting their natural hydrological + hydrogeological regime

PRIORITY FW4

Rivers, streams + springs + associated waterbodies have wide, more natural buffer strips with a diverse vegetation structure, allowing natural processes, light + shade balance, mosaics of wetlands + safeguard from pollution + drought

PRIORITY FW5

Headwater streams have natural forms + processes, functioning as part of a mosaic of (seasonally) wet habitats including grassland + woodlands, providing resilient flows to rivers + supporting a wide range of wildlife

PRIORITY FW6

Chalk streams reach good ecological status, provide high quality river habitats, support characteristic flora + fauna, natural + resilient flows, safeguarded water quality + quantity

PRIORITY FW7

Clay rivers have a more natural channel form + processes, without physical modifications + the impacts of historic alterations + are connected to a mosaic of wetland habitats along the floodplain + headwater streams

PRIORITY FW8

Ponds are maintained + enhanced with high ecological value, or that need restoration. Enhance lakes + create new ponds, especially as part of mosaic habitats. Safeguard ponds from run-off pollutants + invasive species + new habitat creation

PRIORITY FW9

Lowland mire sites (fen + valley mires) + lowland peat habitats are well managed + enhanced, with the provision of buffers to allow the habitat extent to increase

PRIORITY FW10

High quality natural reedbeds across Kent are increased + existing reedbeds are in appropriate management

PRIORITY FW11

Enhance + restore wildlife-rich + functioning freshwater wetlands across the county, providing not only shelter, nurseries + breeding grounds but also carbon sinks + water management

PRIORITY FW12

Restore + enhance semi-natural lowland drains + associated marshlands through integrated water level management + habitat restoration to reduce flood risk, mitigate drought impacts + promote biodiversity

AMBITION FOR URBAN HABITAT IN KENT + MEDWAY

NATURE PLAYS a CENTRAL ROLE in SHAPING the COUNTY'S BUILT-UP ENVIRONMENTS, with WILDLIFE PROVIDED for in a NETWORK of CONNECTED GREEN, BLUE + GREY SPACES, which are ALSO DESIGNED + MANAGED to PROVIDE NATURE-BASED SOLUTIONS to the CHALLENGES FACING THOSE LIVING in URBAN AREAS

PRIORITY URB1

Address habitat fragmentation of the urban environment, ensuring urban species can freely move about + developed areas + infrastructures do not impede passage

PRIORITY URB2

Deliver benefits for wildlife through urban public green spaces + land management

PRIORITY URB3

Safeguard + increase the extent of greenspace, trees + hedgerows within urban areas. Providing habitat; urban cooling, air + noise pollution regulation + surface water management

AMBITION FOR COSTAL HABITAT IN KENT + MEDWAY

COASTAL + ESTUARINE AREAS ARE ALLOWED to EVOLVE, with NATURAL PROCESSES + PROGRESSION RESTORED, to ENABLE ADAPTATION + RESILIENCE to CLIMATE CHANGE. MANAGEMENT of HABITAT SUCCESSION is DELIVERED STRATEGICALLY + HOLISTICALLY, to MINIMISE LOSS + SUPPORT a RANGE of HIGH FUNCTIONING, CONNECTED + COASTAL HABITATS

PRIORITY CL1

Sustainable + strategic management of estuarine + open coast to create functionally linked coastal habitats that enable restoration, adaptation, resilience + to minimise the loss of intertidal habitat

PRIORITY CL2

Reduce small scale loss, improve condition + increase connectivity of saltmarsh mudflats, providing functioning ecosystems that are safeguarded from recreational disturbance

PRIORITY CL3

Reverse the decline in [illegible] of Kent's coast to safeguard this important habitat for marine species + their breeding ground + nursery, + to preserve its function as a blue carbon store

PRIORITY CL4

Chalk cliffs + rock connectivity thrive in their natural state + are safeguarded from damage from vegetation + leisure activities, development + inappropriate coastal defence methods

PRIORITY CL5

Sustainable management of native oyster beds to allow them to reach their habitat building potential

PRIORITY CL6

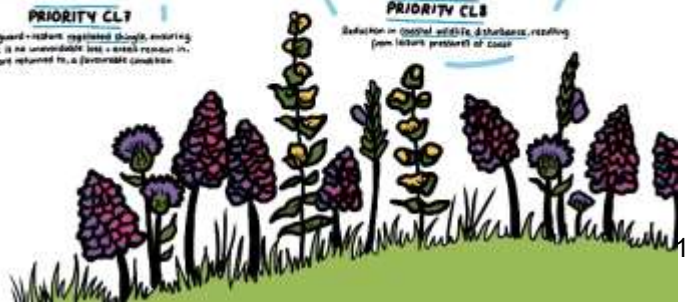
Saline lagoons are appropriately safeguarded + managed to increase their resilience + adaptation to climate change + [illegible] their ecological functions, including the role they will play as transitional habitats

PRIORITY CL7

Safeguard + restore vegetated shingle, ensuring there is no unavoidable loss + avoid removal in, or are returned to, a favourable condition

PRIORITY CL8

Reduction in coastal wildlife disturbance, resulting from leisure pressures of coast



Understanding the priorities and measures – how to deliver against the principles of better, bigger, more and joined up

The ten ambitions are delivered by a number of priorities - the priorities are the outcomes we want to see for nature.

Sitting under these priorities are potential measures and wider measures. These are the actions that are required to realise the outcomes and ambitions we've identified for Kent and Medway's nature.

These measures have been framed around the Strategy's overarching principles by considering:

- What we need to do to **better** to manage the existing habitats we already have, to ensure they are functional, of high quality and safeguarded from threats and pressures.
- How we can build on this existing resource, by extending and buffering habitats, so there is a **bigger** extent.
- Where we can restore or create new habitat, so we have **more** quality habitat for nature.
- What **connectivity** is needed, to ensure the better, bigger and more habitat is functionally linked.
- How we can maximise the benefits of this healthy and functioning natural environment and deliver **nature-based solutions** to some of the county's challenges.
- What are the critical **land management and land use** considerations that are required to underpin delivery for the priority.

The priority and measures page layout

Identifying linked ambitions, priorities and measures

Each priority has a reference number, so you can link the priority to the overarching ambition, and the priority to its associated measures.

Prefix	Ambition to which priority and measure relates
CON	Connectivity
NBS	Nature-based solutions
LM	Land management and land use
GL	Grassland habitats
SH	Successional habitats
WTH	Woodland, trees and hedgerows
FW	Freshwater habitats
URB	Urban environments
CL	Coastal habitats

The prefixes for the Strategy's priority habitats are detailed in the table overleaf.

Each measure has a reference number, so you can link the measure to its overarching priority, and the measure to its associated map. Example -

Ambition	Priority reference number	Potential measure reference number
GL - *Grassland habitats*	GL3 - *Lowland meadows*	GL3.2 - *Create new lowland meadow sites, in close proximity to core/good condition sites.*

Ambition habitat grouping	Prefix	Kent and Medway Local Nature Recovery Strategy priority habitat	Prefix
Grassland	GL	Chalk grasslands	GL1
		Coastal and floodplain grazing marsh	GL2
		Lowland meadow	GL3
		Acid grassland and heathland	GL4
		Arable field margins	GL5
Successional habitats	SH	Open mosaic habitats found on previously developed land (brownfield)	SH1
		Scrub	SH2
Woodland, trees and hedgerows	WTH	Existing woodland, including wood pasture and parkland	WTH1
		New woodland	WTH2
		Lost woodland	WTH3
		Woodland resilience	WTH4
		Ancient woodland and ancient and veteran trees	WTH5
		Wet woodland	WTH6
		Gill woodland	WTH7
		Hedgerow	WTH8
		Traditional orchards	WTH9
Freshwater	FW	Rivers and streams, including chalk and clay rivers (naturalised)	FW1
		Rivers and streams, including chalk and clay rivers (clean)	FW2
		Rivers and streams, including chalk and clay rivers (supply)	FW3
		Rivers and streams, including chalk and clay rivers (buffered)	FW4
		Headwater streams	FW5
		Ponds and lakes	FW6
		Lowland mire sites (fen and valley mires)	FW7
		Reedbeds	FW8
		Freshwater wetland	FW9
		Semi-natural lowland drains and marshlands	FW10

Ambition habitat grouping	Prefix	Kent and Medway Local Nature Recovery Strategy priority habitat	Prefix
Urban	URB	Urban (fragmented)	URB1
		Urban greenspace	URB2
		Urban greenspace (nature-based solutions)	URB3
Coastal	CL	Estuary and open coast	CL1
		Saltmarsh and mudflats	CL2
		Seagrass	CL3
		Chalk cliffs and reefs	CL4
		Native Oyster and Blue Mussel reefs	CL5
		Saline lagoons	CL6
		Vegetated shingle	CL7
		Sand dunes	CL8

Identifying linked measures and Strategy principles

For each priority, the measures are set out against the relevant Strategy principle, denoted by the following symbols.

Measures which improve the quality of our existing habitats, through improved management and safeguarding – delivering **better**.

Measures which extend or buffer existing habitats – delivering **bigger**.

Measures which restore or create new habitat – delivering **more**.

Measures which focus on connectivity – delivering **joined up**.

Measures which deliver **nature-based solutions**.

Measures are identified as either a potential measure or wider measure:

- **Potential measures** identify where the action determined as necessary for our nature recovery priorities should be strategically targeted to achieve the greatest gains for biodiversity and deliver the widest environmental benefits.

- **Wider measures** are proposed actions which would be similarly beneficial over wide areas, or it was not possible to determine specific locations to carry out the proposed action.

Identifying associated Strategy priority species

Each nature recovery priority also notes the priority species that will benefit from its delivery. Some priority species require action that are covered by the potential measures identified for the habitat priority; these are identified separately to the priority species that are associated with the habitat in question but require bespoke measures. Bespoke measures for the Strategy's priority species can be found in Appendix X.

Other information included with each priority

In developing the Strategy, a number of other requirements for the recovery of the habitat or achievement of the priority were identified that could not be mapped or fell outside the definition of a Local Nature Recovery Strategy potential measure:

- **Land management and land use principles** – in effect, these are best practice and/or recommended approaches that should underpin any action taken for the

delivery of the priority. These are not exhaustive – rather they are indicative of the principles that should be applied.

- **Supporting measures** – these largely relate to supporting mechanisms, processes and functions that are considered critical to the delivery of the identified potential measures for habitats and species, and without these being addressed those measures will be limited in their success.

- **Data, evidence and mapping needs** – identifies what is needed to better inform the priority's delivery and/or will allow improved mapping during the next iteration of the Strategy.

Supporting measures and further data/evidence/mapping, sit outside the regulatory scope of Local Nature Recovery Strategy. However, it is important to acknowledge and recognise these in the context of the priority they relate to and are therefore detailed. Only those considered critical to the achievement of the priority have been included.

How to use the potential measures and mapping to inform nature recovery

A note on the Strategy's potential measures mapping and its limitations

Before using the Strategy mapping it is important to note the following:

- Mapping indicates areas where the potential measures could be delivered. In some instances, these are wide ranging areas, in others they are specific areas depending on the mapping capability. In all cases, the mapped areas are indicative.

- The strategic nature of this document means that some measures may not be relevant or appropriate when considered in detail at the local level.

- The desk-based approach means the mapping is theoretical and not based on actual known site condition. Site assessments, and other permissions and pre-requisites, will inform the appropriateness of the action to that location.

- Inclusion of a site in the Local Nature Recovery Strategy does not preclude that action from any necessary permissions, site assessments and other pre-requisites before it is implemented.

- Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas, Ramsar sites and National Nature Reserves are statutory national and international designations. Measures have been mapped to these sites to maintain the integrity of the connectivity approach taken in creating a nature recovery network for the Strategy area. The potential measures also present future considerations for the site. However, the mapped potential measures do not override or replace existing management associated with the designation nor do they negate the need for any requisite consents or approvals. It is essential that the existing designated features and the legal processes and guidance are checked and followed prior to delivery of the suggested measure.

- Mapping is based on existing known data – consequently, other sites may hold potential interest or relevance to a potential measure but may not be mapped as there is no pre-existing data available.

- The Strategy and associated maps do not dictate actions, nor instruct their implementation – they are a guide for how landowners and managers could use or manage the land, or approach their operations, in a way that could support the recovery of nature.

- Mapping of an area to a potential measure, wider measure or areas that could become of particular importance to biodiversity does not offer any formal, or otherwise, protection which can only be provided through statutory designations

or local planning policy. It also does not preclude any uses of the land or operations.

- Although mapping indicates where this action may be most needed or result in the greatest gains, the introduction of this action can be applied outside of the target area – nature recovery action does not need to be limited to the areas that could become of particular importance to biodiversity.

- A potential measure may have value locally, that is not reflected when considered strategically at a county scale – therefore its exclusion from the mapping does not indicate that the action is not applicable.

- The Strategy notes a number of management measures to increase the functionality or biodiversity of a habitat – some have been mapped, some not. These management measures apply to all the county and although mapping indicates where this management may be most needed or result in the greatest gains, the introduction of appropriate management will deliver benefits wherever it is applied.

Identifying action to recover nature

The Strategy mapping provides a spatial context to the wide number of priorities set out in the Kent and Medway Local Nature Recovery Strategy. It takes what could be seen as an overwhelming list of actions and sets a county-wide plan for where these actions would best be delivered.

As such, the mapping is a key part of the Strategy – it breaks down what we need to do, and crucially where, to recover nature in Kent and Medway. How you use the maps will be dependent on what you are wanting to know.

Further instruction on using the Strategy maps is provided alongside the online mapping tool.

Where are the priority areas for a specific habitat type?

You may be interesting in knowing where in the county has been identified as the key areas for a specific habitat type – this might be a broad habitat group, like grasslands, or a specific habitat like lowland meadows.

You can view these on the map by selecting all the potential measures that start with the relevant prefix. Continuing the example, this would be looking at mapped measures that start with GL, if your interest is all grasslands, or GL3 if your interest is specifically lowland meadows.

This will show you where in the county the Strategy has identified action should be targeted for that broad habitat group and/or specific habitats. The habitat prefixes can be found in the table below. When viewing the maps, you may find that more than one potential measure is identified for an area – see below for guidance on prioritising measures.

Prefix	**Ambition to which priority and measure relates**
CON	Connectivity
NBS	Nature-based solutions
LM	Land management and land use
GL	Grassland habitats
SH	Successional habitats
WTH	Woodland, trees and hedgerows
FW	Freshwater habitats
URB	Urban environments
CL	Coastal habitats

Where should specific action be targeted?

You may be interested in knowing where in the county has been identified as the key areas for a particular action – this might be actions that relate to one of the Strategy principles, for instance “more”, or a particular action you’ve seen identified against a priority.

You can view these by selecting the specific measure, using the reference number. If you wanted to see where actions delivering “better” for lowland meadow had been mapped, you would select the map for GL3.1. If you wanted to see where the potential measure “increase the extent of high quality, connected lowland meadow by creating new lowland meadow sites, in close proximity to core/good condition sites” had been mapped, you would select the map for GL3.2.

You can view more than one potential measure at a time. When doing so, you may find that more than one potential measure is identified for an area – see below for guidance on prioritising measures. The reference numbers for each measure are provided in the priorities’ potential measures tables.

What should be done at a specific location?

You may be interested in knowing if any action has been identified at a specific location – whether that be land you own or manage, land you volunteer on or land that is of particular interest to you.

In viewing the map at that particular location, you can view whether potential measures have been mapped to that area. If there are no potential measures identified, you should also look at the wider measures mapping – whilst these are not a constitute part of the areas that could become of particular importance to biodiversity, they have been identified as offering a wider opportunity for nature recovery.

If the area of land you are interested in has a statutory national or international designation (Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas, Ramsar sites and National Nature Reserves), you may still find potential measures mapped. These do not override any existing management for the site, and it is essential that the existing designated features and the legal processes and guidance are checked and followed prior to delivery of the suggested measure.

If there are neither potential measures nor wider measures mapped to the area of interest, this does not mean that it holds no value for biodiversity, nor does it not offer any opportunity to support the recovery of nature. It is simply that, within the requirements of the Local Nature Recovery Strategy potential measures mapping, it has not been identified as significant at a strategic-county scale.

When viewing the maps, you may find that more than one potential measure is identified for an area – see below for guidance on prioritising measures.

Where should action for the Strategy priority species be targeted?

Mapping of potential measures for the Strategy’s priority species has not been developed, due to the complex nature of the bespoke action required.

To aid locating where action could be taken, priority species heat maps have been developed for a range of habitat assemblages. These maps identify the areas considered to offer the most benefits for priority species, using the density of priority

species for that habitat assemblage as a proxy. These maps are indicative and are intended to provide additional and supporting information for delivery. They should be used in consultation with species experts, when delivering action for priority species.

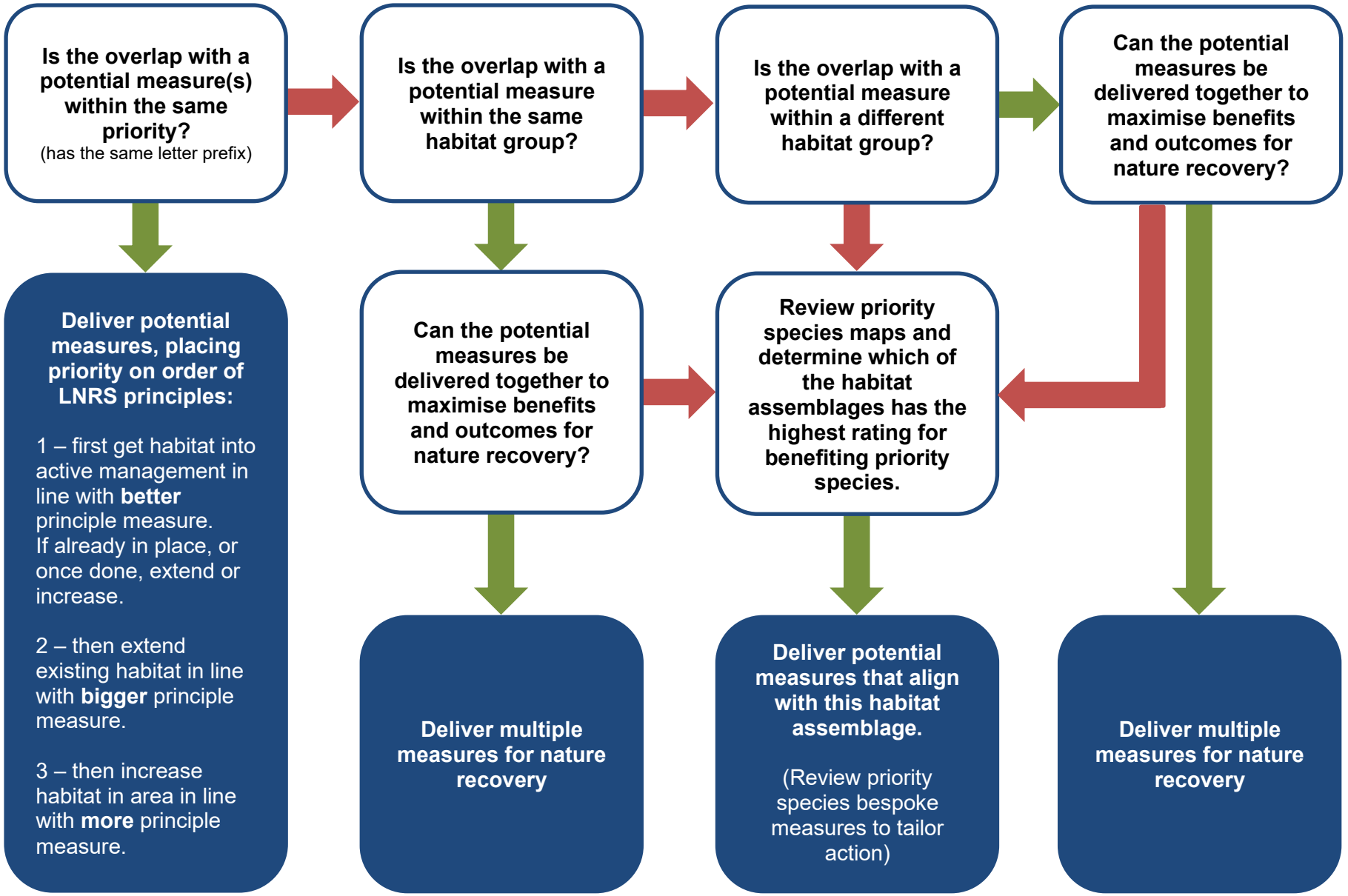
The priority species habitat assemblage maps produced for the Strategy are detailed in the table below.

Strategy habitat group	**Priority species habitat assemblage maps**
Grassland habitats	- Arable. - Chalk grassland. - Coastal and floodplain grazing marsh. - Heathland. - Lowland meadows.
Successional habitats	- Scrub and open mosaic habitat on previously developed land (brownfield).
Woodland, trees and hedgerows	- Woodlands. - Ancient woodland, wood pasture and parkland and traditional orchard.
Freshwater	- Rivers and streams. - Standing open water. - Swamp, reedbed and wet woodland.
Urban	- Urban.
Coastal	- Littoral sediment. - Maritime cliff and slope. - Sand dunes and vegetated shingle.

Prioritising action when more than one potential measure is mapped to the same location

In some locations, more than one potential measure is identified. This is to ensure that no opportunity for nature recovery is missed and that broad areas consider a range of habitats, to create the mosaic of habitats that nature recovery needs.

Where the most appropriate measure, based on the site, is not clear following a local site assessment, the approach overleaf is recommended to aid the selection of the most appropriate measure to deliver. It is advised that professional advice is sought from a land advisor, nature conservation body or another appropriately qualified source.


Is the overlap with a potential measure(s) within the same priority?
(has the same letter prefix)
Is the overlap with a potential measure within the same habitat group?
Is the overlap with a potential measure within a different habitat group?
Can the potential measures be delivered together to maximise benefits and outcomes for nature recovery?
Deliver potential measures, placing priority on order of LNRS principles:
1 – first get habitat into active management in line with better principle measure. If already in place, or once done, extend or increase.
2 – then extend existing habitat in line with bigger principle measure.
3 – then increase habitat in area in line with more principle measure.
Can the potential measures be delivered together to maximise benefits and outcomes for nature recovery?
Review priority species maps and determine which of the habitat assemblages has the highest rating for benefiting priority species.
Deliver multiple measures for nature recovery
Deliver potential measures that align with this habitat assemblage.
(Review priority species bespoke measures to tailor action)
Deliver multiple measures for nature recovery

White space – using the wider measures mapping

Users of the Strategy and its mapping may be concerned about the 'white space', in the local habitat map, which indicates that the areas is not mapped as being – or could become – of particular importance for biodiversity.

Every area has a biodiversity value and is important in the recovery of nature. This Strategy was developed under the project title *Making Space for Nature*, and that is absolutely what we need to do in every bit of the county's landscape, if our wildlife is to have the room it needs to return to a thriving state.

However, as noted by the Local Nature Recovery Strategy guidance, indiscriminate or widespread mapping of areas will not aid the targeting of available resources. Therefore, the Strategy is required to determine and map the areas that will have the greatest impact on achieving the priorities.

An unmapped area does not mean that no action should be taken – and there are measures that can be taken indiscriminately across the county. A number of the priorities have mapped wider measures – these are measures identified as valuable to the recovery of a particular habitat but could only be mapped to the extent of that habitat, rather than prioritised areas. Whilst these do not feature in the Strategy's Local Habitat Map, they play an important role in directing broad action across the whole of the Strategy area and collectively fill in much of the "white space".

In addition, under many of the priorities, there are land management and land use principles, which can be applied to that habitat. These principles can be applied to that particular habitat anywhere in the county – it does not need to be habitat mapped in the Local Habitat Map.

Informing delivery of biodiversity net gain

The potential measures mapping has an important role in the delivery of meaningful biodiversity net gain. Biodiversity net gain is a mandatory requirement that aims to make sure that development has a measurably positive impact on biodiversity. This "gain" is calculated using a standardised metric, which identifies the biodiversity value of the land lost and the biodiversity gained.

The 2025 updated planning guidance notes that Local Nature Recovery Strategies will identify areas where habitat creation, restoration or enhancement would be most beneficial for nature recovery and wider environmental outcomes and that the Strategies can play a critical role in supporting offsite gains to be delivered in a way that maximises biodiversity benefits, when these are required to achieve a development's biodiversity gain objective. This can help to support bigger and more joined-up areas in which our wildlife can thrive.

Local Nature Recovery Strategies are designed to promote the delivery of offsite biodiversity gain in the right places, where offsite provision is needed to meet the biodiversity gain condition for a development and it cannot be met in full through onsite habitat enhancements.

The Local Nature Recovery Strategy can be used as a key source of information regarding strategic approaches to off-site biodiversity net gain delivery and connections to existing habitat, when local planning authorities are carrying out their functions in respect of biodiversity net gain.

The statutory biodiversity metric formula takes different factors into account, including the habitat's size, condition, type and strategic significance. Strategic significance is the local significance of the habitat based on its location and habitat type. Where a Local Nature Recovery Strategy has been published, high strategic significance (and the associated score) is applied when:

- the location of the habitat parcel has been mapped in the Local Nature Recovery Strategy as an area where a potential measure has been proposed to help deliver the priorities of the Strategy; and
- the proposed intervention is consistent with the mapped potential measure in the Local Nature Recovery Strategy for the habitat parcel.

Protecting nature

The purpose of the Strategy is to provide a framework for nature recovery, directing action to where it is most needed and where it will deliver the greatest gains. It does not offer any formal, or otherwise, protection which can only be provided through statutory designations or local planning policy.

Throughout the document the term safeguard is used. In the context of this Strategy, this does not imply a formal protection nor prevention of potentially impactful activities, unless already identified within an existing and adopted local plan or an already established legal protection. Safeguarding may be delivered by setting aside the land but also refers to the use of active management that prevents loss and damage, the use of buffers to minimise human impacts and connecting habitats to increase resilience. Where measures refer to safeguarding areas, this does not mean that nothing can happen in these areas; rather that appropriate action should be taken within these areas to support the habitats and species they are notable for.

Local authorities may choose to use the Strategy to help identify land that should be set aside for the purposes of nature recovery but there is no requirement on them to do so. The Strategy is there to offer direction and proposed measures that can assist public bodies in meeting their duties relating to the recovery of nature.

Connectivity priorities and potential measures

Ambition for connectivity in Kent and Medway - **High quality habitats are functionally connected at both a county and local scale, providing more linked natural space for nature to thrive in and a landscape that wildlife can move through and adapt to change in.**

An overview of habitat fragmentation and the importance of improving connectivity

Habitat fragmentation results when large areas of connected habitat become broken up as a result of use of the land or natural processes. The main causes of habitat fragmentation in Kent and Medway are urbanisation and associated infrastructure, agricultural changes or expansion and removal of habitat, such as deforestation. As a coastal county, sea level rise, coastal erosion and salt and freshwater flooding can also temporarily and permanently fragment habitats.

Habitat fragmentation negatively impacts wildlife in several ways. A perhaps obvious consequence is the loss of total habitat area. This loss means less space for species to find what they need in terms of food, shelter and breeding.

When a habitat is fragmented, it not only reduces the quantity but also the quality – what is known as the edge effect. In a functioning and healthy environment, the “edge”, where two different habitats meet, is often a diverse area of varying structures and can in fact be critical to species which require different habitats for their life cycle and/or feeding and breeding. But conditions of these edge habitats are also quite different to the interior of the adjoining habitat and are often unsuitable for the survival of habitat specialists. As habitats become broken up and smaller, the proportion of edge habitat increases, and species not suited to these areas struggle to survive.

Fragmentation also impedes the movement and mobility of species. This impacts wildlife in two ways: Firstly, populations of species become isolated, resulting in inbreeding and a reduction in genetic diversity. This makes the population more vulnerable to disease and has consequences its long-term health; and ultimately, puts it at greater risk of extinction. Secondly, fragmentation will limit a species' ability to respond to climate change impacts, whether that be redistributing because of climate shifts or because habitats have changed, been degraded or lost.

Habitat fragmentation may be a significant driver of nature loss, however it is one that can be addressed and even reversed through habitat management, extension and creation.

Connectivity priorities and potential measures

The majority of the county's connectivity priorities relate to the specific needs of individual habitats and the functional links that need to be made within or between these. Consequently, the majority of the connectivity potential measures for the Strategy area are detailed with the relevant habitat. In addition to these habitat-based measures for connectivity, the Strategy also promotes a number of overarching priorities and potential measures to be applied across the county.

Priority CON1 - County's key wildlife sites better connected by addressing the fragmentation and barriers preventing movement of species

	Wider measure CON1.1 Improve functional connectivity corridors between the designated and protected sites of the Areas of Particular Importance for Biodiversity and safeguard these areas.

Land use and land management principles for better connectivity of county's key wildlife sites:

- Safeguarding to be delivered through setting aside land and/or putting in place active management that prevents loss of, or damage to, the habitat.

Supporting measure for better connectivity of county's key wildlife sites:

- Land use planning to support the safeguarding of areas that are strategically important in reducing habitat fragmentation and addressing bottlenecks for species movement by setting aside land and/or putting in place land use restrictions and management that prevents loss and damage.

Data, evidence and mapping needs for better connectivity of county's key wildlife sites:

- Identify areas of county that are strategically important in reducing habitat fragmentation and addressing bottlenecks for species movement.

Priority CON2 – Fragmentation caused by arterial roads, railway and other major infrastructure retrospectively addressed, reconnecting habitats and wildlife pathways.

	Potential measure CON2.1 Installation of green bridges, wildlife crossings, tunnels and other appropriate structures, alongside retrofitting existing structures, to address historic fragmentation caused by major infrastructure.

Supporting measure for addressing fragmentation caused by major infrastructure:
- All new infrastructure to consider fragmentation impacts and design connectivity mitigation into the scheme from the start.

Data, evidence and mapping needs for addressing fragmentation caused by major infrastructure:
- Maintain a register of habitat fragmentation caused by major infrastructure to enable a pipeline of projects for funding and investment.

Priority CON3 – Habitat management and wilding approaches delivering a mosaic of habitats at a large scale, that are functionally connected and nature can flourish, with no important habitats or species populations left completely isolated.

	Wider measure CON3.1 Set aside and/or put in place active management to prevent loss of, or damage to, areas of importance for functional connectivity.
	Wider measure CON3.2 Enhance habitats alongside the county's highway, railway, cycleway, pathway and Public Right of Way networks and National Trails to become functional networks for wildlife movements and provide opportunities for people to connect with nature.
	Wider measure CON3.3 Maximise opportunities to restore wildflower habitat on road verges to contribute to a county network of wildlife-friendly habitat corridors.
	Wider measure CON3.4 Implement broad buffer zones and connecting strips between habitat areas designated or managed for their biodiversity value.

Data, evidence and mapping needs for connected habitats:
- Develop better understanding, and map, priorities areas for road and verges that need improved management for the benefit of functional connectivity.
- Identify and map migration routes for priority species, identifying any existing barriers to movement.

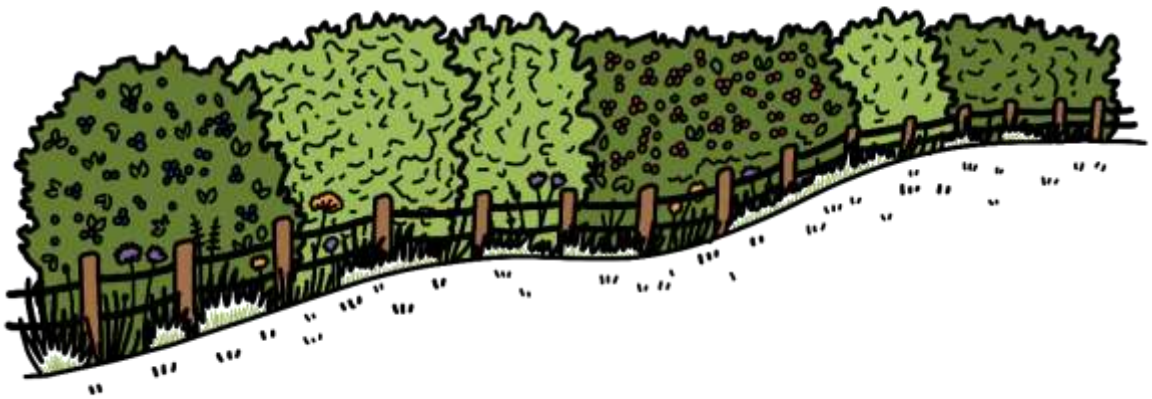
Priority CON4 - Landscape scale management, with partners beyond the county, to address habitat change and species migration as a result of climate change.

Supporting measures for regional action:

- Work with responsible authorities to the north and west of the county to ensure they are identifying species migrating from Kent as a result of climate change dispersal.
- Utilise existing regional initiatives and partnerships, and develop new where required, to support and facilitate cross boundary working across the south-east.

Data, evidence and mapping needs for regional action:

- Increase understanding of likely species movement and habitat change to improve ability to identify which counties to work with.



Nature-based solutions priorities and potential measures

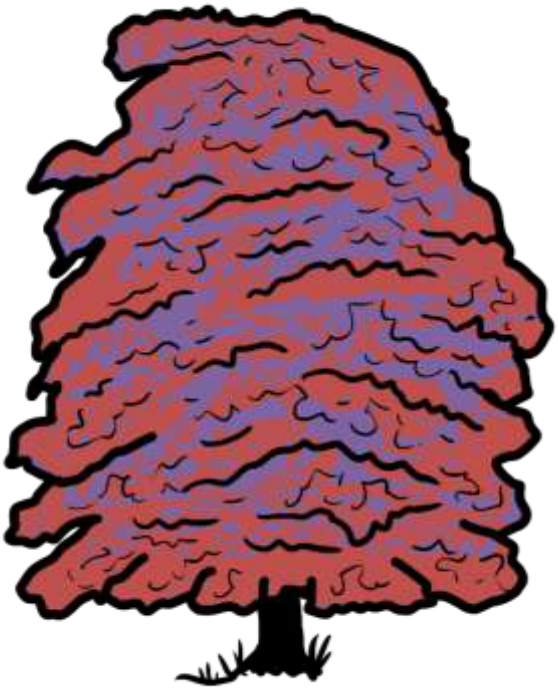
Ambition for nature-based solutions in Kent - **Through safeguarding, management and restoration of the county's ecosystems, we enhance our resilience to climate change, deliver environmental improvements, address health and societal inequalities, and promote well-being, whilst advancing nature recovery.**

An overview of nature-based solutions and the opportunities in Kent and Medway

Nature-based Solutions (NbS) address societal challenges through actions to protect, sustainably manage, and restore natural and modified ecosystems, benefiting people and nature at the same time. They target major challenges like climate change, disaster risk reduction, food and water security, biodiversity loss and human health, and are critical to sustainable development.

Through the many habitats within the county, we are presented with the opportunity to not only recover nature through our interventions but also deliver some other significant benefits, including:

- Carbon sequestration.
- Soil quality improvements.
- Air quality improvements.
- Water quality improvements.
- Water resource management.
- Flood management.
- Coastal erosion management.
- Temperature regulation.



Our six habitat priorities, offer the following potential benefits:

	Grasslands	Successional habitats	Woodland, trees and hedgerows	Freshwater	Urban (green infrastructure)	Coastal
Carbon sequestration	✓	✓	✓	✓	✓	✓
Soil quality	✓		✓			
Air quality			✓		✓	
Water quality	✓			✓	✓	
Water supply				✓	✓	
Flood management	✓	✓	✓	✓	✓	✓
Coastal erosion	✓					✓
Temperature regulation			✓	✓	✓	

Natural Solutions to Climate Change in Kent (2021) identified a number of opportunities for nature-based solutions within the county, which would deliver the above benefits. These are discussed below.

Biodiverse grassland

Approximately 8% of the county is biodiverse grassland. Biodiverse grassland, also known as species-rich grassland, is an area dominated by grasses that supports a wide variety of plant and animal life, offering numerous benefits for ecosystems and human well-being. Nature-based solutions come from the protection and restoration of grassland, road verge naturalisation and an increase in sustainable agriculture. Sustainable agriculture could significantly increase the benefits offered by grassland, by reverting some of the improved grassland which covers 30% of the county.

The challenges faced with nature-based solutions from grassland are land availability, buy-in of the agricultural sector and intensive management requirements.

Woodland, Trees and Hedgerows

Woodland is the most abundant semi-natural habitat in Kent and Medway, with broadleaved, mixed and Yew woodland covering 11% of the county. Active woodland management is regarded as the quickest win in terms of nature-based solutions, with expansion and creation of woodland and hedgerow delivering further in the longer term. This is embedded in the county's tree establishment strategy, Plan Tree, which aims to better manage existing woodland, tree and hedgerow resources and to establish a further 1.5 million trees, increasing average canopy cover across the county to 19%.

The challenges to these opportunities are exacerbating drought conditions in the county putting existing and new trees at risk, the lack of, and costs of, active woodland management and land availability for regeneration and new woodlands, trees and hedgerows.

Freshwater

Rivers and streams cover 1.7% of the county and standing water, open water and canals cover 1.2%. Fen, marsh and swamp wetland habitats account for just 0.2% which means this is a limited habitat.

In the first instance, the retention and safeguarding of this county's inland wetlands would preserve the beneficial qualities offered by existing habitats. Greater opportunities exist through the restoration of natural river channels, extension and creation of wetlands and the reinstatement of historic ponds and creation of new ponds.

Land availability, length of time for the habitat to become 'functional', associated flood risks and trading of habitats may pose challenges to these solutions.

Urban

With 16% of the county built or urban habitats, it is important to look for opportunities for nature-based solutions in these areas. Especially so as this is where the majority of the population live and work and therefore where the societal challenges that can be addressed by nature-based solution are most keenly felt.

Opportunities include green walls and roofs, better management of and increase in urban green space, naturalising road verges, street trees and use of sustainable urban drainage. These not only provide the benefits outlined above but also are important in respect of delivering health and well-being benefits and providing opportunities to connect with nature within the urban environment.

Coastal wetlands and other habitats

Kent has one of the longest coastlines in the country, with a wide variety of different habitats including coastal grazing marsh, saltmarsh, native oyster beds, seagrass beds, sand dunes, vegetated shingle and mudflats. With such a notable resource, opportunities begin with improved management, restoration and retention to continue

to benefit from the services that all these habitats provide. Extension of this habitat is another opportunity, but one that is perhaps harder to deliver given the need to find suitable sites for managed realignment of defences and the effects of coastal squeeze reducing the existing habitat. Extension of the habitat also poses the challenge of habitat trading and therefore needs to be part of a wider, strategic approach.

Opportunities to extend coastal sites and benefit habitats can be considered for the reuse of dredged sediment taken from ports and harbours around the coastline.

Nature-based solutions priorities and potential measures

In delivering the habitat-based priorities and their associated measures, opportunities to realise the benefits these bring in terms of nature-based solutions will be maximised. Where relevant, potential measures have specifically been mapped to where these benefits are most needed – that is focussing on areas of flood risk, poor water quality and supply, poor air quality, urban heating and where the benefits of increasing and improving access to greenspace would be most keenly felt.

In addition to these habitat-based priorities for nature-based solutions, the Strategy also promotes a number of overarching priorities and wider measures to be applied across the county.

Priority NBS1 - Increase the extent of carbon sequestering habitats in the county (woodlands, saltmarshes, heathlands and grasslands), which are purposefully managed to function as a carbon store whilst prioritising a nature recovery function.

Priority NBS2 - Safeguard from loss, and increase the functionality and extent of, habitats delivering critical ecosystem services in the county.

Priority NBS3 - Improve soil health and structure by enhanced and increased soil management, so that it is delivering better for invertebrates, carbon sequestration, water retention and management, and production and provisioning services.

Land management and land use principles to support nature-based solutions:

- Increase the extent of agricultural land that is also managed for carbon sequestration, focusing on soil health and biomass production.
- Prioritise soil restoration where soil degradation is impacting food production and other provisioning services.
- Plant and restore hedgerows across open landscapes, at appropriate locations and taking account of historic field boundaries, to capture water and minimise run-off, reducing scour and siltation.
- Adopt principles of agroforestry and permaculture to improve soil management.
- Apply conservation grazing practices to develop stronger grassland root structures and adaptive multi paddock grazing, with long rests to restore soil health.
- Reduce use of pesticides, herbicides and fertiliser and use of insecticides and wormers in livestock.
- Use regenerative practices: reduced inputs, reduced cultivation, no/minimum till, deeper rooting, stronger rooted swards, over wintering stubble, cover crops, minimise compaction, plough along contour, maintain invertebrates and bacteria.
- Safeguarding to be delivered through setting aside land and/or putting in place active management that prevents loss of, or damage to, the habitat.

Supporting measures to support nature-based solutions:

- Land use planning to support the safeguarding of areas that are important for carbon sequestration by setting aside land and/or putting in place land use restrictions and management that prevents loss and damage.

Data, evidence and mapping needs for nature-based solutions:

- Identify the county's most valuable carbon sequestering habitats and potential measures to maximise their function, in order to support landowners and managers to recognise and realise the carbon sequestration opportunities of their land.
- Identify areas of Kent where critical nature-based solutions are being delivered.
- Baseline mapping of soil health, determined on areas rather than point data, so a wider collaborative management approach can be employed.

Land management and land use priorities and potential measures

Ambition for land management and land use in Kent and Medway - **Land management and land use throughout Kent and Medway not only meets the economic and social needs of the county, but also seeks opportunities to deliver nature recovery gains across a wide range of land uses, from commercial to recreational.**

An overview of land management and land use and the opportunities in Kent and Medway

Kent and Medway's agricultural landscape

The county of Kent is known as the Garden of England for good reason. 62% of the land in Kent and Medway is used for agriculture and14.7% for forestry and woodland. The Defra 2021 census reported that, in total, there are over 13,000 farmers, growers and farm workers across 2,825 farms in the county, covering 222,540ha of land. Over 40% of agricultural grassland is used for grazing livestock and 16% serves a horticultural purpose. Over 50% of land farmed in the county is under arable production.

Farmers, growers and producers in Kent and Medway contribute significantly to the UK's food security, providing 40% of horticultural goods (vegetables, leafy greens, salad products) consumed domestically, and 80% of the top fruit (apples and pears). Viticulture is a fast-growing use of land in Kent and Medway, with over 50 vineyards now in the county.

Agricultural business encompasses a wide range of landowners including large private estates, institutional landowners, large commercial operations, family farms and small holdings.

Opportunities through collaboration, innovation and nature-friendly farming

There are many leading regenerative farmers in Kent and Medway, who are applying skilled and innovative regenerative practices to their land, focused on protecting and restoring soil health. Five key principles of regenerative practices inform and guide a suite of farming techniques:

1. Minimise soil disturbance.
2. Maximise species diversity.
3. Keep the soil covered year-round and build soil organic matter.
4. Maintain living roots all year round.
5. Integrate livestock.

The impact of nature-friendly, regenerative practices is boosted when farmers work together, turning individual efforts into action on a landscape scale. Within Kent and Medway, we are fortunate to have several farmers clusters working together at landscape scale. These farmer-led groups are working with local communities, water companies, wildlife charities, and town, parish and local councils. They are demonstrating how business, environment and food security can be linked together whilst protecting and restoring a remarkable range of wildlife habitats and species whilst responding to the pressures of climate change.

Collectively, farmer clusters cover over 52,606ha of farmed land across the county (about a quarter of the agricultural land). Together, some 315 members are collaboratively working across a variety of landscapes, soil and habitat types to support vital species recovery and habitat management, restoration and creation. All whilst growing food and managing livestock. These clusters are:

- Boxley
- Darent Valley
- East Kent Arable
- East Kent Valleys
- East Stour
- Eden
- Greensand
- Hoo
- Marden
- North Kent Downs and Medway Gap
- North-East Kent
- Stour Valley to Stone Street
- Swale
- Upper Beult
- 1066

The way that land is managed has a strong influence on the health of our waterways; run-off from agricultural inputs can cause eutrophic pollution which is damaging to biodiversity and negatively impacts our water quality, whilst soil health and intensive farming practices can increase risks from flooding or drought.

Catchment Partnerships bring together the local knowledge and expertise of environmental NGOs, water companies, local authorities, government agencies, landowners, angling clubs, farmers, academia and businesses. These Partnerships undertake integrated management of land and water, addressing each river catchment as a whole and delivering crosscutting practical interventions on the ground.

Many of the nature-friendly farming practices that are so important for supporting the recovery of biodiversity are enabled through Environmental Land Management (ELM) grants from DEFRA. These schemes are comprised of three distinct funding streams:

1. The Sustainable Farming Incentive (SFI) scheme pays farmers and land managers to take up or maintain sustainable farming and land management practices that: protect and benefit the environment; support food production; and improve productivity.
2. Countryside Stewardship Higher Tier (CSHT) pays farmers and land managers to manage land in a way that: protects, restores or enhances the environment; and mitigates the effects of climate change. CSHT can be done on woodland, farmed land, land managed for nature or a combination of these.
3. Landscape Recovery pays groups of farmers and land managers to do long-term, large-scale projects together. The Landscape Recovery scheme supports net zero carbon emissions; protected sites; and wildlife-rich habitat.

Seeking opportunities to recover nature through sensitive land management is a key principle of the Local Nature Recovery Strategy. However, there must also remain an awareness of potential impacts on productivity and food security that can result from nature recovery actions. For instance, wide field margins may reduce the parcel size available for production and reduce yield. For this reason, the Local Nature Recovery Strategy ambition for land management maintains a focus on economic and social priorities, whilst also striving to see nature recovery coincide happily with farming practices.

Non-agricultural land use and management

There are many non-agricultural landowners in the county, which are either currently employing, or present the opportunity for, management practices that support habitats and wildlife. Such landholdings in Kent and Medway include, but are not limited to:

- Amenity greenspace, playparks, country parks.
- Charity owned land such as Kent Wildlife Trust, RSPB, Plantlife, Woodland Trust, National Trust and English Heritage.
- Privately owned natural and historic sites, stately homes, historic and managed gardens, including Crown Estate.
- Golf courses, cricket fields, equestrian sites and other sports pitches
- Churches and cemeteries.
- Allotments.
- Public estate, including councils, National Highways, Network Rail, MoD, NHS, HM Prisons.
- Public and private schools, colleges, universities and other educational facilities.
- Parish and Town Councils.
- Ports.
- Water, power, gas and other infrastructure.
- Minerals and waste sites.
- Business parks, large retailers, developments, airfields and tourist attractions.
- Game shooting reserves/land (some of this can be found on farmland).

Land management and land use priorities and potential measures

Land management and land use undertaken sensitively and in consideration of the habitat, and wildlife that depends on it, poses a great opportunity to support the recovery of nature. The majority of these opportunities exist in landowners and managers delivering the Strategy's habitat-based potential measures.

In addition to these habitat-based measures, the Strategy also promotes a number of overarching priorities and potential measures for land management and land use to be applied across the county.

Priority LM1 - Increase in the number of farms employing nature friendly farming practices, sensitive land management and delivering targeted action for nature recovery, resulting in farmland across the county that is rich in wildlife.

	Wider measure LM1.1 New or extended farmers clusters in Areas that Could become of particular Importance for Biodiversity not already covered.

Priority species requiring nature-friendly farming measures:

- Barn Owl
- Corn Bunting
- Linnet
- Yellow Wagtail
- Yellowhammer
- Brown Hare
- West European Hedgehog

Priority species associated with farmland, requiring additional bespoke measures:

- Shrill Carder Bee
- Omphalapion beuthini (Beetle)
- Brown Hairstreak Butterfly
- Brent Goose
- Lapwing
- Tree Sparrow
- Turtle Dove
- Adder
- Ground-pine

Land management and land use principles for nature-friendly farming:

- Application of regenerative principles of land management including limiting soil disturbance; maintaining soil cover; fostering agricultural diversity and rotations; keeping living roots in the soil; integrating livestock and arable systems
- Application of integrated pest management (IPM – use of biological, physical and cultural tools to control pest species) to develop a more natural approach to pest control, reducing reliance on plant protection products and livestock medications.
- Restore, create, expand and maintain headlands, margins, in-field strips and ponds.
- Management of buffers around arable fields for nature and other environmental benefits.
- Increase in habitat complexity on farmland, with mosaic habitats, and strategically considered field margins and hedgerows, providing connectivity across landscape. Utilise: wider, higher, bigger hedges; smaller fields, with grass margin buffers; more scrub, cover crops, arable wildflowers; more trees in hedgerows and worked fields; and ponds.
- Incorporate hedgerows into livestock management practices.
- Tackle insufficient livestock and graziers, for conservation grazing, by providing a “dating service” between those who need livestock on their land and of the graziers that might be available to move livestock into these areas.
- Creation of wide environmental buffer margins within linear water ways (ditches, streams, rivers) to reduce run-off from agricultural land and nitrogen enrichment.
- Creation of successional areas and scrub, and nesting plots for Skylarks and other declining farmland birds.
- Interventions to provide year-round food supply for Skylarks and other declining farmland bird species.

- Provision for, and safeguarding of, nesting sites for Swallows in farm buildings.
- Ensure any measures taken are in keeping with the local landscape setting and character.

Supporting measures for nature-friendly farming:
- Use existing and new clusters, and other means, to connect farmers with those already employing nature friendly farming.
- Development of conservation grazing support programme/network, to support measures requiring this intervention, which provides matching services, training and information and links to peers and the supply chain.

Data, evidence and mapping needs for nature-friendly farming:
- Identify farmland that is strategically important for linking natural habitats.

Priority LM2 - Farmland responding to climate change induced pressures with the help of nature.

	Wider measure LM2.1 Use of nature-based solutions to improve climate resilience of farmland.

Land management and land use principles for nature-based solutions for climate resilience in farming:
- More cover and catch crops to mitigate flooding and drought.
- Agroforestry – integrating trees into agricultural landscapes.
- Climate resilient food-crops.
- Use of trees to provide shade to livestock.

Data, evidence and mapping needs for nature-based solutions for climate resilience in farming:
- Identify farmland at greatest risk of climate change impacts and likely to benefit the most from nature-based solutions.

Priority LM3 - Prevent agricultural diffuse pollution of freshwater habitats and groundwater bodies in farmland, as a result of soil, nutrient or livestock management practices and physical modifications.

	Wider measure LM3.1 Increased water capture, rainwater harvesting, reservoirs, ponds, holding areas, leaky wood dams.

Land management and land use principles for water quality management in farming:
- Wet habitat creation designed to also be beneficial to wildlife.
- Adaptive and judicious grazing/better grazing practice to keep more soil carbon. More resilient grazing, livestock can stay out for longer, results in less slurry, less run-off/pollution.
- Create wide environmental buffer margins within linear water ways (ditches, streams, rivers) to reduce run-off from agricultural land and nitrogen enrichment.
- Reduce pressure from livestock access.
- Reduce livestock stocking density along clay rivers.

Supporting measures for water quality management in farming:
- Work with farmers and farmer clusters to address water on a whole farm basis and in the context of their catchment, improving soil health to hold and purify water, reduce need for fertilizer and pesticide use through integrated pest management.

Data, evidence and mapping needs for water quality management in farming:
- Identify rivers most sensitive to diffuse pollution and over-abstraction.

Priority LM4 - Publicly accessible open spaces managed to deliver benefits for wildlife, as well as the people that use them.

	Potential measure LM4.1 Protection of habitats and species sensitive to disturbance by employing site management, and other measures, which support connection to, and experience of, wildlife but ensures our most sensitive sites remain undisturbed.

Land management and land use principles for delivering wildlife benefits alongside publicly accessible open space:

- Adopt principle of "least restrictive" management approach in publicly accessible areas, to enable nature and access to co-exist and thrive.
- Create sacrificial and honey pot public sites to reduce the impact of visitors on vulnerable sites.
- Tailor management to sensitive habitats.
- Provide a greater complexity of habitats – flowering plants, brambles, nettles, log piles, beetle banks, scrub – and increase variety in urban planting schemes, to provide year-round shelter, forage and food for wildlife.
- Vary topography in landscaping, including scrubby areas, low nutrient substrates and bare or low growing planting areas.
- Reduced use of pesticides and herbicides.
- Plant right trees, in the right place and with appropriate management to ensure their successful establishment.
- Use of herbaceous and perennial plants and shrubs in parks and gardens which are bee and pollinator friendly and use planting around the base of trees.
- Implement cut and collect to reduce nutrient loading and support wildflower establishment.
- Retain deciduous deadwood (standing, felled or fallen) where safe to do so.
- Ensure any measures taken are in keeping with the local landscape setting and character.
- Use restrictive buffers to prevent public and dog disturbance in sensitive areas.
- Use of interpretation/public information to increase understanding of wildlife features and wild management.

Data, evidence and mapping needs for delivering wildlife benefits alongside publicly accessible open space:

- Identify sites most sensitive to public access impacts.
- Identify areas where sacrificial and honey pot sites could be established to reduced pressures on more sensitive sites.

Grassland habitat priorities and potential measures

Ambition for grasslands in Kent and Medway - **Our existing grasslands are conserved, with appropriate management returned to restore, connect and extend these habitats to deliver high quality, species-rich areas across the county.**

An overview of the county's grassland habitat, pressures and threats, and the importance of, and opportunities for, recovering this habitat

Almost a third of the county (29.7%) is covered by improved grasslands. These are agricultural grasslands used for pasture, as well as grasslands of urban parks and gardens. Agriculturally improved grassland is highly productive, resulting from intensive management using fertilisers and/or herbicides. As a result of this improvement, the grasslands are species-poor, lacking many of the finer grasses and flowering plants found in semi-natural swards.

By contrast good quality semi-improved grassland is important for sustainable food production and biodiversity. Good examples are found in the High Weald National Landscape, which features lots of historic, small, irregularly shaped fields. Semi-improved grasslands within both a national and local context are becoming an increasingly pressured habitat. When managed as either meadows or permanent pasture, the soils are undisturbed, compared to temporary grassland or arable.

Although, semi-improved grasslands do not have the range and number of grass and wildflower species associated with unimproved species-rich grassland, they still support significant, and sometimes rare species and, under appropriate management, they hold considerable potential to return to species-rich grassland.

Unimproved species-rich grasslands are an extremely rare and threatened habitat, because of this it is imperative that the opportunities presented by semi-improved grasslands for nature recovery at both a site and a landscape scale are not lost.

Amenity grassland, such as many playing fields, urban parks and urban road verges are also intensively managed and have a limited range of plant species. Although these areas are species-poor, they do offer the opportunity to increase space for nature through the introduction of features that can increase its value to nature and can be important as potential connectivity corridors where they are situated between fragmented areas of species rich habitat.

For many people, chalk grassland, sometimes known as lowland calcareous grassland is what first comes to mind when thinking about grassland habitats within the county. Although this habitat covers just 0.5% of the county, this represents 5% of

the UK's chalk grassland resource and supports many rare species. Orchids and butterflies are particularly associated with this habitat. Chalk grassland has been the focus of nature conservation efforts in Kent for decades however retention of this restored habitat requires ongoing management to prevent scrub encroachment. Fragmentation also needs addressing and there are still further areas in need of restoration and enhancement.

Species-rich lowland meadow is an even rarer habitat. The 2012 Kent Habitat Survey recorded 28,531ha of neutral grassland, representing the largest of the grassland broad habitat types across the county. However, just 27.7ha, less than 0.1%, of this was recorded as lowland meadow. This small fraction of high quality grassland is a reflection of how these lowland meadows have been lost through agricultural improvement and the abandonment of traditional hay meadow management. These small, flower-rich fields support a plethora of wildflowers and insects many of which are rare and threatened. It is therefore important that we look to restore this lost habitat resource across the county by returning to more traditional and land sensitive management practices. This can begin by first focussing on field margins and the encouragement of arable wild plants.

A very different grassland habitat, particularly typical to the North Kent coast is coastal and floodplain grazing marsh, which is often found adjacent to saltmarsh and mudflats, but separated hydrologically by coastal infrastructure. Coastal and floodplain grazing marsh is the county's greatest area of UK BAP habitat, covering 3.6% of the area. This habitat is vital for wading birds such as Lapwing and Redshank that nest in the tussocks of the grassland, as well as large wintering populations of wildfowl and waders. Pressures include a lack of sufficient grazing animals, but also climate breakdown resulting in droughts; it is an ongoing battle for landowners and managers of these habitats to keep water on the land during spring and summer. Recreational disturbance is an additional pressure, particularly for birds.

The geology of Kent means that acid grassland and heathland are rare habitats (just 512ha and 71.5ha respectively), but important patches can be found. Recreational disturbance and vandalism, including fire, are an issue for more urban sites.

Nature-based solution opportunities from grassland habitat

Grassland provides a fantastic variety of nature-based solution opportunities. Increased grassland areas, particularly alongside road verges and in arable fields provide vital refuges and foraging areas for pollinators. By reconnecting landscapes with native, pollinator-beneficial flowering plants and grasses, we can increase the diversity of our pollinating insects and therefore support crop production which relies on pollinators for success.

Different types of grassland store a different amount of carbon in their structures. Neutral grassland has been proven to store more carbon (100.5 tonnes CO_2/ha) in the top 30cm of soil than acid grassland (63.6 tonnes CO_2/ha) and chalk (92.01 tonnes CO^2/ha). Grassland recovery, particularly good quality and well-managed

neutral grassland restoration could contribute to carbon storage, therefore reducing the amount of carbon dioxide entering the atmosphere.

Well-managed grasslands in good condition can help combat some of the issues impacting water quality, while also providing other benefits such as water retention and slowing the rate at which rainfall reaches our watercourses. Buffer strips adjacent to watercourses can act as a safeguard, preventing pollutant run-off from adjacent fields.

Furthermore, species rich and well-managed grasslands lead to improved soil quality, which helps with flood mitigation. Stronger soils improve its water infiltration capability, so with more sustainable agricultural methods and rewilding of grasslands, we could reduce the risk of flooding and create a more climate-resilient landscape.

On the coast, grazing marsh is an incredibly important habitat for climate resilience. Coastal grazing marsh not only sequesters carbon in its unimproved soil structure, but it also has the capacity to hold fresh water as a floodplain, ensuring a year-round water supply as well as being a vital habitat for a range of species. It also provides a natural coastal defence, dissipating wave energy.

The balance of grazing animals used as a more organic way of managing grassland is important to achieve the balance of a productive and biodiverse landscape.

Wider benefits of healthy and functioning grassland habitat

Grasslands are often the sort of open environments with nature and views that most appeal to people for walking – so the mental and physical health benefits are considerable where these areas are accessible.

When located close to urban populations and with access, grassland provides a crucial health role, particularly for deprived communities where health issues may be prevalent. often there are psychological barriers to overcome for people to feel safe and welcome in these environments.

Priority GL1 - Chalk grasslands are safeguarded from land use changes and other threats and restored to a better, species-rich condition. They are connected and buffered across the landscape to promote ecological integrity and resilience, particularly for the purpose of facilitating species movement in response to climate change.

	Potential measure GL1.1 Maintain and enhance core, high quality and good condition chalk grassland sites through the application of conservation management sensitive to the existing and potential flora and fauna of the site.
	Potential measure GL1.2 Increase the extent of high quality, connected chalk grassland by bringing appropriate sites, adjacent to core/good condition sites, into conservation management.
	Potential measure GL1.3 Increase functional links between chalk grassland and other habitats to maximise nature-based solutions offered by improved connectivity.

Priority species requiring chalk grassland potential measures:

- Brown Hare

Priority species associated with chalk grassland, requiring additional bespoke measures:

- Maidstone Mining Bee
- Moss Carder Bee
- Shrill Carder Bee
- *Omphalapion beuthini* (Beetle)
- Adonis Blue Butterfly
- Chalk Hill Blue Butterfly
- Dark Green Fritillary Butterfly
- Dingy Skipper Butterfly
- Duke of Burgundy Butterfly
- Grizzled Skipper Butterfly
- Silver-spotted Skipper Butterfly
- Small Blue Butterfly
- Wall Butterfly
- *Porpolomopsis calyptriformis (Fungi)*
- Rufous Grasshopper
- Wart-biter Bush Cricket
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat Barred Tooth-striped Moth
- Black-veined Moth
- Forester Moth
- Liquorice Piercer Moth
- Milkwort Beauty Moth
- Scabious Leaf-miner Moth
- Straw Belle Moth
- Sussex Emerald Moth
- Adder
- Bedstraw Broomrape
- Dwarf Milkwort
- Green-winged Orchid
- Ground-pine
- Juniper
- Lady Orchid
- Lizard Orchid
- Musk Orchid

Land management and land use principles for chalk grassland:

- Extension and increase of chalk grassland flora to be delivered in first instance by allowing natural regeneration and colonisation. Where not possible, green hay should be the preferred next option. Use of local provenance seed or other plant material should only be used when other techniques are not practically possible.

Data, evidence and mapping needs for chalk grassland:

- Develop an improved evidence base of the county's core species-rich chalk grassland sites.

Priority GL2 - Existing coastal and floodplain grazing marsh restored to better condition and retaining more freshwater, with sensitive areas, and the breeding waders they support, protected from land management and recreational disturbance. Opportunities taken to create and extend areas of this habitat and increase its climate resilience.

	Potential measure GL2.1 Increase opportunities to store winter water on land adjacent to grazing marsh to increase opportunities for "wetting" during spring/summer.
	Potential measure GL2.2 Deliver grazing marsh habitat restoration, extension and creation where it will offer the greatest gains to support the county's important grazing marsh flora and fauna and is designed to minimise recreational disturbance and reduce risk from predation.
	Potential measure GL2.3 Reconnect rivers with their former natural floodplain and improve the water storage ability of floodplain in order to protect against climate change impacts and drought.

Priority species requiring coastal and floodplain grazing marsh potential measures:

- Barn Owl
- Corn Bunting
- Yellow Wagtail
- Marsh Harrier
- Oystercatcher
- Pochard
- Shoveler
- Yellow Wagtail
- European Eel
- Brown Hare
- European Water Vole
- West European Hedgehog

Priority species associated with coastal and floodplain grazing marsh, requiring additional bespoke measures:

- Moss Carder Bee
- Shrill Carder Bee
- Kentish Clown Beetle
- Ophonus puncticollis (Beetle)
- Pride of Kent Rove Beetle
- *Haliplus variegatus* (Beetle)
- Brent Goose
- Lapwing
- Redshank
- Rufous Grasshopper
- Noctule Bat
- Fisher's Estuarine Moth
- Marsh Mallow Moth
- Borrer's Saltmarsh-grass
- Slender Hare's-ear
- Least Lettuce
- Greater Water-parsnip

Data, evidence and mapping needs for coastal and floodplain grazing marsh:

- Identify priority areas for the reconnection of rivers with their former natural floodplain.
- Identify priority areas for the improvement of floodplain water storage ability.
- Identify potential areas where creation of new grazing marsh can be prioritised to sites which are likely to be most sustainable in the long term. Criteria for areas including: above predicted sea level impacts; adequate freshwater supply; minimal (or manageable) recreational disturbance.

Priority GL3 - Existing species-rich lowland meadow is safeguarded from loss, restored to better condition and extended through sensitive land management practices to reduce soil nutrient levels. Through the extension of lowland meadow, this habitat is better connected, reducing the risk of isolated meadow species and declines in species richness.

	Potential measure GL3.1 Maintain and enhance core, high quality and good condition lowland meadow sites through the application of grazing/cutting regimes sensitive to the existing and potential flora and fauna of the site.
	Potential measure GL3.2 Increase the extent of high quality, connected lowland meadow by creating new lowland meadow sites, in close proximity to core/good condition sites.
	Wider measure GL3.3 Increase connectivity of, and provision for wildlife in, lowland meadows by leaving field margins uncut, varied sward heights, hedgerows well-connected and integrate some bare patches or banks within the grassland site.
	Wider measure GL3.4 Establish neutral grasslands on floodplains, to create resilience to flooding and drought and protect water quality.

Priority species requiring lowland meadow potential measures:

- Barn Owl
- Brown Hare
- West European Hedgehog

Priority species associated with lowland meadow, requiring additional bespoke measures:

- Common Toad
- Great-crested newt
- Moss Carder Bee
- Shrill Carder Bee
- Dark Green Fritillary Butterfly
- Dingy Skipper Butterfly
- Grizzled Skipper Butterfly
- Wall Butterfly
- *Porpolomopsis calyptriformis* (Fungi)
- Rufous Grasshopper
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat
- Adder
- Green-winged Orchid

Land management and land use principles for lowland meadow:

- Extension and increase lowland meadow flora to be delivered in first instance by allowing natural regeneration and colonisation. Where not possible, green hay should be the preferred next option. Use of local provenance seed or other plant material should only be used when other techniques are not practically possible.

Data, evidence and mapping needs for lowland meadow:

- Develop an improved evidence base of the county's core species-rich lowland meadow sites.

Priority GL4 - Retain, restore and extend the county's acid grassland and heathland habitat mosaics, to improve the species diversity that these habitats, with limited extent in Kent and Medway, support.

	Potential measure GL4.1 Implement appropriately designed management that prevents succession into secondary woodland and scrub encroachment. Management ensures that acid grassland is maintained and retained but not at the expense of the mosaic's heathland resource. Grazing regime provides maximum diversity and a combination of larger open areas and smaller mosaic "glades" to provide habitat for breeding birds, reptiles and invertebrates. Climate resilience is built into management.
	Potential measure GL4.2 Create new acid grassland sites from improved grassland and former arable sites.

Priority species requiring acid grassland and heathland potential measures:

- Grasshopper Warbler
- Linnet
- Yellowhammer

Priority species associated with acid grassland and heathland, requiring additional bespoke measures:

- Common Toad
- Four-banded Weevil-wasp
- Moss Carder Bee
- *Anthicus bimaculatus* (Beetle)
- Nightjar
- *Porpolomopsis calyptriformis (Fungi)*
- Forester Moth
- Adder
- Heath Dog-violet

Land management and land use principles for acid grassland and heathland:

- Control/remove early successional species and invasive, over abundant or non-native species.
- Where sites were originally wood pasture but succession to secondary woodland has occurred, return to wood pasture habitat.
- Avoid nutrient enrichment by protecting sites from agricultural and road run-off.

Data, evidence and mapping needs

- Develop an improved evidence base of the county's core lowland heathland and acid grassland sites.
- Identify and map lowland heathland and acid grassland areas that have been neglected (and other potential areas), for connectivity and restoration.

Priority GL5 - Safeguard, restore and increase fields with a diversity and abundance of arable wild plants.

	Wider measure GL5.1 Management of field margins to provide graduated field edges, with wider and cultivated margins.
	Wider measure GL5.2 Management of fields, with mixed times of cultivation to encourage a diversity of arable wild plants.
	Potential measure GL5.3 Design and deliver location and soil appropriate projects, targeted in the richest arable plant areas and on a variety of soil types, to create new, large areas dedicated to the promotion of arable wild plant diversity and abundance.

Priority species requiring arable field margin potential measures:

- Barn Owl
- Corn Bunting
- Linnet
- Yellowhammer
- Brown Hare
- West European Hedgehog

Priority species associated with arable field margin, requiring additional bespoke measures:

- Common Toad
- Great-crested newt
- Moss Carder Bee
- Shrill Carder Bee
- *Omphalapion beuthini* (Beetle)
- Brent Goose
- Lapwing
- Linnet
- Marsh Harrier
- Tree Sparrow Turtle Dove
- Yellow Wagtail
- Serotine Bat
- Adder
- Ground-pine

Land management and land use principles for arable wild plants:

- Integrate grazing livestock into conservation arable farming, including grazing of over-winter cover crops.
- Removal of chemicals.
- Employ mixed timings for cultivating areas.

Data, evidence and mapping needs:

- Develop an improved evidence base of sites of arable wild plants.
- Map and identify priority species of arable wildflowers specific to soil types in Kent.

Successional habitat priorities and potential measures

Ambition for successional habitat in Kent and Medway - **The structural diversity of open mosaic habitat found on previously developed land (brownfield) and low-level scrub is safeguarded from loss and damage, for the benefit of species that rely on early successional habitats.**

An overview of the county's successional habitat, pressures and threats, and the importance of, and opportunities for, recovering this habitat

Successional habitats are dynamic and change over time. An example of successional habitat is scrub, which is vital for nightingales and reptiles, but only at a certain height and structure, after which the value for particular species declines as scrub transitions to woodland.

Open mosaic habitats found on previously developed land (also known as brownfield) often supports an extremely rich diversity of wildflowers and animals, including nationally scarce invertebrates. Often these areas are low in nutrients, which suits these species, but can also mean that scrub stabilises as a permanent rather than transitional habitat.

Often these valuable areas for wildlife are underappreciated or unprotected and can be at risk from development. Increasing the awareness of the importance of these sites and the need for their retention and management, to protect the important features that support some of our rarest and most threatened species is a crucial basis to any action.

Nature-based solution opportunities from successional habitat

Successional and mosaic habitats provide more resilience to climate change. The more varied the habitats and species are, the less the shock to the ecosystem will be in changes of temperatures, extreme weather events and new diseases. Allowing these habitats to naturally regenerate rather than forcibly 'improving' them, will allow habitats to adapt to our changing environment.

Wider benefits of healthy and functioning successional habitat

This habitat is often close to, or amongst, urban populations so there are health and connection with nature benefits to maintaining and managing these areas.

This could range from the experience they provide (if accessible) to opportunities for community and volunteer groups to be involved in the management of these areas, through activities such as scrub management.

When located close to urban populations and with access, successional habitats provide a crucial health role, particularly for deprived communities where health issues may be prevalent. Often there are psychological barriers to overcome for people to feel safe and welcome in these environments.

Priority SH1 - Safeguard from loss and damage, open mosaic habitats found on previously developed land (brownfield), that support priority species which rely on early successional habitats.

Better	Potential measure SH1.1 Appropriate management plans in place for key sites, with measures that support the succession of habitats to occur naturally, increase edge habitat, create a graded profile of mixed habitat and provide features that support the species of interest most strongly tied to open mosaic habitats and, in particular, any species that the particular site in question is notable for.

Priority species requiring open mosaic habitats found on previously developed land (brownfield) potential measures:

- Barn Owl
- Brown Hare
- Hazel Dormouse
- West European Hedgehog

Priority species associated with open mosaic habitats found on previously developed land (brownfield), requiring additional bespoke measures:

- Common Toad
- Moss Carder Bee
- Shrill Carder Bee
- *Anthicus bimaculatus* (Beetle)
- House Martin
- Swift
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat
- Distinguished Jumping Spider
- Lizard Orchid

Land management and land use principles for open mosaic habitats found on previously developed land (brownfield):

- Design enlargement and connectivity of open mosaic (brownfield) habitats to wider landscape by consideration of how important species associated with the site make use of other adjacent land.
- Maintain open areas through vegetative management.
- Preserve and create water features.
- Prevent recreational disturbance.
- Safeguarding to be delivered through setting aside land and/or putting in place active management that prevents loss of, or damage to, the habitat.

Supporting measures for open mosaic habitats found on previously developed land (brownfield):

- Increase awareness and understanding of the importance of successional habitats and the worth and vulnerability of open mosaic (brownfield) habitats found on previously developed land.
- Land use planning to support the safeguarding of the county’s best and most significant open mosaic (brownfield) habitats found on previously developed land/brownfield sites by setting aside land and/or putting in place land use restrictions and management that prevents loss and damage.

Data, evidence and mapping needs for open mosaic habitats found on previously developed land (brownfield):

- Survey the county's open mosaic (brownfield) habitats found on previously developed land/brownfield sites to identify the county's best and most significant sites.
- Review abandoned railways as potential long corridors of open mosaic (brownfield) habitat.

Priority SH2 - Increase the extent of low level, scrub/successional habitat, providing a mix of young and mature scrub to enable structural diversity and the support of a wide range of species. Link this scrub habitat with hedgerows, woodland and other habitats to support wildlife corridors.

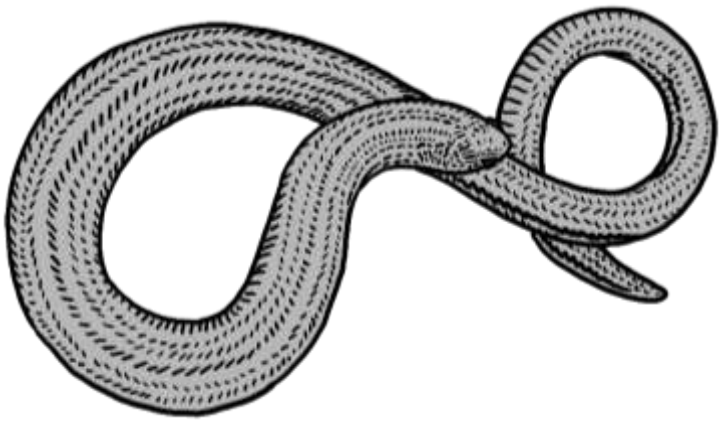
Better	Potential measure SH2.1 Selective conservation grazing of areas within the scrub to create open areas and allow for natural regeneration.
Connected	Potential measure SH2.2 Maintain and integrate areas of scrub within arable land, woodlands, grasslands, wetlands and urban habitats to encourage successional habitats and provide wildlife corridors.
	Potential measure SH2.3 Put in place active scrub management that provides a mix of young and mature scrub, bare ground and links with surrounding habitat.

Priority species requiring scrub/successional habitat potential measures:
- Moss Carder Bee
- Oak Mining Bee
- Shrill Carder Bee
- Nightingale
- Turtle Dove
- Brown Hairstreak Butterfly
- White-letter Hairstreak Butterfly
- Liquorice Piercer Moth
- Adder

Priority species associated with scrub/successional habitat, requiring additional bespoke measures:
- Grasshopper Warbler
- Linnet
- Yellowhammer
- Hazel Dormouse
- West European Hedgehog

Land management and land use principle for scrub/successional habitat:
- Cut and removal when encroaching on other habitats.
- Preserve and create water features alongside scrub and foraging areas and ensure they are in close proximity.

Supporting measures for scrub/successional habitat:
- Increase awareness and understanding of the importance of scrub habitats.



Woodland, trees and hedgerows priorities and potential measures

Ambition for woodland, trees and hedgerows in Kent and Medway - **Kent and Medway's native woodland, trees and hedgerows are safeguarded from loss and under appropriate and active management, delivering robust ground flora and soil structures. A mixture of natural regeneration and new establishment improves connectivity and provides an even greater contribution to climate change mitigation and resilience.**

An overview of the county's woodland, trees and hedgerows, pressures and threats, and the importance of, and opportunities for, recovering this habitat

A recent tree canopy assessment (July 2023) calculated the county had 64,751ha of tree cover, with an average tree canopy cover of 17% and an urban tree cover average also at 17%. In terms of distribution across the county, west Kent districts have a far greater canopy cover (28-30%) than those in east Kent (4-9%). Areas such as Thanet and Romney Marsh have particularly low canopy cover.

Our two National Landscapes are heavily wooded. The High Weald has the most wooded landscape in the country with 28% woodland cover and is particularly important for Gill woodland, a rare habitat, scarce elsewhere in the south-east of England. The Kent Downs has 23% cover, with the majority of this, 70%, being irreplaceable ancient woodland.

Kent has 11% of England's ancient semi-natural woodland, with more ancient woodland than any other county in the UK. Ancient semi-natural woods have developed naturally. Most have been used by humans – often managed for timber and other industries over the centuries – but the woodland cover has persisted for over 400 years. Ancient woods are our richest and most complex land habitat in the UK and they are home to more threatened species than any other - it is the complex biodiversity which has accumulated over hundreds of years that classes these as irreplaceable. Plantations on ancient woodland sites (PAWS) are ancient woods that have been felled and replanted with non-native species. Although damaged, they still have the complex soil of ancient woodland and are considered to contain remnants of the woodland specialist species which occurred before, offering restoration opportunities.

Broadleaved, mixed and yew woodland is the county's largest semi-natural habitat, covering 44,490ha and 11% of Kent – over half of this can be found in the Kent Downs and High Weald National Landscapes.

The county also has areas of wet woodlands – the 2012 figure of 662.2ha was considered an underestimation because of survey difficulties. Wet woodland supports a range of uncommon species, with ground flora that require wet or humid conditions, such as mosses, liverworts, ferns and sedges. Dead wood within the woodland sites can be frequent, and its association with water provides specialist habitats not found in dry woodland.

In Kent, coniferous woodland is mostly plantation woodland, with non-native species grown for timber production – this covers just 0.9% of the county.

The county also has wood pasture and parkland, a mosaic of habitats comprising trees and scrub in grassland, where the trees are most often ancient or veteran. This habitat is not just important in terms of its natural heritage but also the landscape history associated with its creation.

Trees in hedgerows and trees outside woodland are an important part of the picture for trees in the county and hedgerows are recognised as a key habitat for many species, which can also help connect fragmented areas of woodland.

A history of fruit production has also left us with another habitat important for wildlife – traditional orchards. However, many of these orchards have been lost in the past half century and are now seen as unprofitable compared to commercial orchards and the 1,676ha of traditional orchards recorded in 2012 by the Kent Habitat Survey is now likely further reduced.

Our woodlands are home to a vast array of wildlife, including some nationally threatened woodland species. The county is one of a small handful of locations where the woodland butterfly, Heath Fritillary, is found and the increasingly rare and now threatened Duke of Burgundy. Our woodlands are also important for some rare moths and spiders, including the Heart Moth and Money Spider, with Blean Woods being the only site in Britain where the latter is found. Kent is also a stronghold for the Hazel Dormouse and our ancient broadleaved woodlands are hugely important for bats, with Kent's woodlands being home to one of the UK's rarest mammals, the Bechstein's Bat.

Most woodland requires some form of management, however many remain without. Traditional practices, such as coppicing, are considered unprofitable and the practice is declining to the detriment of wildlife.

Wood lotting (the dividing up of woodland for sale) has been a particular problem for the county, resulting in habitat fragmentation, inconsistent management and sometimes inappropriate use. Close linear planting is not good for wildlife, creating woodland with little understory for flowers and butterflies and no deadwood for invertebrates.

Deer are problematic for woodland habitats and are increasing in number across Kent. Their damaging activities include bark stripping and eating saplings in woodlands, preventing natural regeneration. They also destroy newly planted saplings, whips and feathers, requiring costly and wasteful tree guards. Grey

squirrels also pose a problem for our woodland. Not only has their presence resulted in the loss of the UK's only native squirrel species, the red squirrel, across the country but they can also affect the composition of native woodland by bark stripping and eating the seeds of certain trees.

Given its proximity to the continent, Kent is particularly vulnerable to invasive species and disease. Ash dieback, caused by a fungus which originated in Asia, is a prime example of how the county is often impacted by new pests and diseases first, with this disease having had a massive impact on ash trees in the county in recent years.

Climate change is another pressure on our trees and woodland, particularly for wet woodland, a rare and unique habitat, found in various sites across the country, but suffering the impacts of drought.

In recognition of the importance of woodland, trees and hedgerows to not only biodiversity but also the services they provide, the county adopted a target of extending tree cover by 1.5 million new trees and increasing the county's average canopy cover to 19%. Kent Plan Tree also aims to improve existing woodland and trees' health and safeguard it from degradation and loss. Underpinning woodland, tree and hedgerow expansion and creation in the county is the principle of "right tree, in the right place, for the right reason, with the right management and right monitoring".

Nature-based solution opportunities from woodland, trees and hedgerows

Increasing tree canopy cover in Kent would bring a variety of benefits. Woodland, trees and hedgerows are natural solutions to storing carbon, cleaning air, absorbing surface water and regulating temperatures in urban settings.

Woodlands are important for carbon storage, with broadleaf and mixed woodland sequestering the most carbon in their trunks, roots and leaves. Well-managed, biodiverse woodlands provide an opportunity to deliver many other benefits alongside a nature-based solution to carbon sequestration.

Efforts to improve air quality through nature-based solutions could target the 43 Air Quality Management Areas (AQMA) throughout the county and specific roads with high emissions, by establishing roadside woodland and hedgerows.

Woodland, trees and hedgerows give structure to soil and having these on higher land helps to absorb water and slow the flow of any run-off, preventing flooding downstream. Deep rooted trees allow for more stable soil with improved structure and quality, thus improving water retention and the climate resilience of the trees.

Wet woodland can play an important role in flood risk management if managed for this purpose, using a technique called slowing the flow – using cut timber to hold water across the woodland floor. Use of this nature-based solution presents an opportunity to extend this rare habitat.

In urban areas, trees provide a regulatory function, cleansing and cooling the air, but they also provide shelter and shade. In agriculture the establishment of the trees can also offer shade benefits for livestock.

Wider benefits of healthy and functioning woodland, trees and hedgerows

In an urban setting, trees provide mental health benefits through the opportunity to connect with nature. They also provide physical health benefits by regulating the temperature and air quality.

When located close to urban populations and are accessible to people, woodland provides a crucial health role, particularly for deprived communities where health issues may be prevalent. People need to feel safe and welcome however and often there are psychological barriers to overcome.

Priority WTH1 - Retain the extent and improve the condition of existing woodland and trees outside woodland through active management, improving habitat provision for woodland species.

	Wider measure WTH1.1 Holistic management of woodlands and transitional open spaces to sensitively consider the understory, ground flora and soil; allow a variety of successional states and variety of species, developing to mature, providing different canopy layers; management of internal edge, including creation of glades and rides; preserve natural decay stages of woodland including old growth, dead and dead standing wood; where appropriate reinstate and increase coppicing as a management measure; deliver targeted management in order to provide habitats for vulnerable woodland species.
	Potential measure WTH1.2 Restoration and extension of lowland and upland wood pasture and parkland.
	Potential measure WTH1.3 Safeguard and enhance small pockets of woodland to provide key stepping stones for species movement and connect with hedgerows and scrub.

Priority species requiring woodland and trees potential measures:

- Barn Owl
- Lesser Spotted Woodpecker
- Marsh Tit
- Hazel Dormouse

Priority species associated with woodland and trees, requiring additional bespoke measures:

- Fringe-horned Mason Bee
- Oak Mining Bee
- Shining Guest Ant
- Click Beetle
- Noble Chafer Beetle
- Phoenix Clown Beetle
- *Pseudeuparius sepicola* (Beetle)
- Red-horned Cardinal Click Beetle
- Southern Oyster Mushroom Beetle
- Nightingale
- Nightjar
- Duke of Burgundy Butterfly
- Grizzled Skipper Butterfly
- Heath Fritillary Butterfly
- White Admiral Butterfly
- White-letter Hairstreak Butterfly
- *Tinodes pallidulus* (Caddisfly)
- Brilliant Emerald Dragonfly
- *Cortinarius osmophorus* (Fungi)
- *Cortinarius violaceus* (Fungi)
- *Sarcodontia crocea* (Fungi)
- *Enterographa elaborata* (lichen)
- Bechstein's Bat
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat
- Boring Millipede
- Aspen Knot-horn Moth
- Daisy Case-bearer Moth
- Drab Looper Moth
- Forester Moth
- Scarce Goldenrod Plume Moth
- White-spotted Sable Moth
- Lady Orchid

Land management and land use principles for woodland and trees active management:

- Management and/or removal of invasive and inappropriate non-native species, in accordance with the latest guidance and statutory requirements.
- No conversion of natural and semi-natural woodlands into intensive woodland plantations or monocultures.
- Removal of diseased trees and tree species targeted in disease control efforts.
- Control of damaging deer and grey squirrel populations at a landscape scale.
- Safeguarding to be delivered through setting aside land and/or putting in place active management that prevents loss of, or damage to, the habitat.

Data, evidence and mapping needs for woodland and trees:

- Identification of woodlands in need of improved management.

Priority WTH2 - Increase the average canopy cover of Kent through woodland and trees outside woodland.

	Potential measure WTH2.1 Extension of existing woodland through natural colonisation and planting.
	Potential measure WTH2.2 Conversion of unproductive land for arable into woodland.
	Wider measure WTH2.3 Plant more trees in hedgerows.
	Wider measure WTH2.4 Use tree and hedgerow establishment and scrub to increase connectivity, provide wildlife corridors and address fragmented areas of woodland.
	Potential measure WTH2.5 Plant more urban trees and create urban forests and orchards, ideally siting tree planting to where they will provide flood management, air quality and temperature regulation benefits.
	Wider measure (unmapped) Increase trees and hedgerows on agricultural land, siting to also provide additional benefit of increased shade for livestock.

See Priority WTH1 for relevant priority species.

Land management and land use principles for increasing canopy cover:

- All tree establishment to follow the Kent Plan Tree principles of the right tree, in the right place, for the right reason, with the right management and right monitoring.
- Any action to increase canopy cover to consider existing habitats to ensure there is no detrimental impact to other high value habitats; appropriate soil types; a diversity of species; and landscape character.
- Retain, replace and plant more highway trees.
- Woodland creation to be species-rich and use resilient species.
- Active and long-term aftercare and monitoring to ensure planting sites survive.
- Greater integration of trees in worked landscapes – agroforestry and silvopasture.

Supporting measures for increasing canopy cover:

- Increase in the number of local tree nurseries.

Data, evidence and mapping needs for increasing canopy cover:

- Mapping to establish appropriate sites, and suitable trees, for woodland creation/expansion, to identify nature-based solution opportunities and to set tree targets at local level.

Priority WTH3 - Return the ecological function provided by native trees previously prolific in Kent, by restoring those lost to disease, pests, climate change and drought.

Priority species requiring native tree restoration potential measures:

- Hazel Dormouse

Priority species associated with native tree restoration, requiring additional bespoke measures:

- Red-horned Cardinal Click Beetle
- Southern Oyster Mushroom Beetle
- White-letter Hairstreak Butterfly
- Enterographa elaborata (Lichen)
- Bechstein's Bat
- Aspen Knot-horn Moth

Land management and land use principles for native tree restoration:

- Replace trees as they are lost from woodlands and hedgerows with a diversity of resilient species, and planted appropriately and with the context carefully considered; to include: Aspen, Alder, Small-leaved Lime, Sessile Oak, Field Maple, Wild Cherry, Bird Cherry, Rowan, Buckthorn, Pedunculate Oak, Sycamore, Birch.
- Targeted and strategic establishment, and natural colonisation, of resilient tree species, with focus on Beech, Black Poplar, Hornbeams, Oaks, Juniper, disease resilient Ulmus cultivars (Elm), Ash, Wild Service and county varieties such as Kentish Cob.
- Careful procurement of tree stock, from local provenance where possible, and with consideration of biosecurity measures.
- If trees are succumbing to disease, it might be provident to source trees from elsewhere to increase the genetic diversity.
- Retain standing and lying dead wood.

Data, evidence and mapping needs for native tree restoration:

- Establish a better understanding of areas where restoration of lost trees should be targeted.

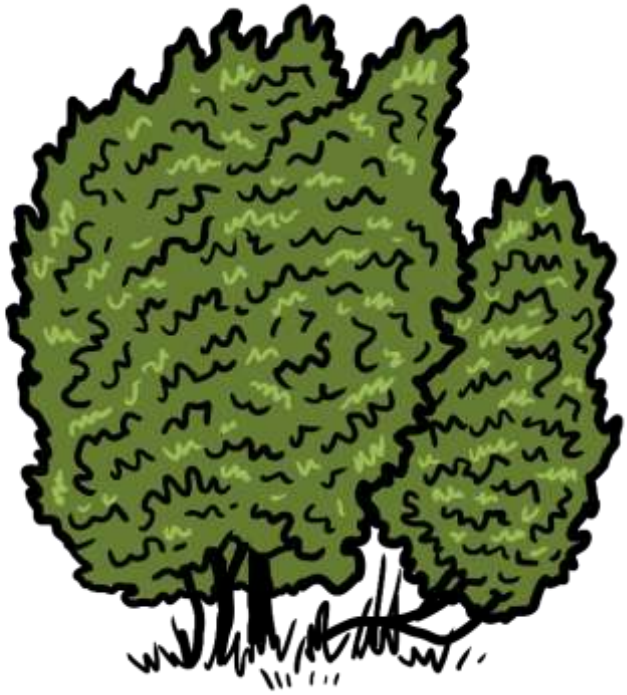
Priority WTH4 - Ensure the resilience of the county's woodlands.

	Wider measure WTH4.1 Management that facilitates and enables the natural regeneration of woodlands, by reducing grazing pressures.
	Potential measure WTH4.2 Where appropriate, promote the restoration of Plantations on Ancient Woodland Sites (PAWS) sites to a more species rich woodland.
	Wider measure WTH4.3 Increase connectivity of woodland habitats by creating semi-natural habitat buffers strips, which reduce the gaps between patches and extend woodland edge habitats.
	Potential measure WTH4.4 Establish green bridges to connect woodlands fragmented by road and rail.

See Priority WTH1 for relevant priority species.

Land management and land use principles for woodland resilience:

- When establishing new woodlands, and extending existing, use a diversity of appropriate tree species to safeguard against pest and diseases and include species that will be more resilient to climate impacts.
- Remove invasive species.



Priority WTH5 - Ancient woodland, and ancient and veteran trees, are safeguarded from loss, with damaged areas restored through natural processes, management and the removal of invasive trees and plants. Areas of ancient woodland are buffered and better connected.

	Wider measure WTH5.1 Appropriate and targeted management of ancient woodland, in order to retain and enhance specific features of ancient woodland and enhance biodiversity.
	Wider measure WTH5.2 Establishment of adequate buffer zones around ancient woodland that provide sufficient and suitable protection to the root system and other sensitive ecological features the ancient woodland supports. Buffers are linked to hedgerows and other appropriate habitats, to extend habitat connectivity.
	Potential measure WTH5.3 Solitary ancient and veteran trees buffered with open space, with further protections offered with establishment of neighbouring wood pasture and agroforestry of mixed habitats.
	Potential measure WTH5.4 Connectivity of ancient woodland improved by links to hedgerows, establishment of standard trees and increased standing deadwood.

Priority species requiring ancient woodland and ancient and veteran trees potential measures:

- Marsh Tit
- Lesser Spotted Woodpecker
- Hazel Dormouse

Priority species associated with ancient woodland and ancient and veteran trees, requiring additional bespoke measures:

- Click Beetle
- Noble Chafer Beetle
- Southern Oyster Mushroom Beetle
- Weevil
- *Cortinarius osmophorus* (Fungi)
- *Cortinarius violaceus* (Fungi)
- Bechstein's Bat

Land management and land use principles for ancient woodland and ancient and veteran trees:

- Management to include (as appropriate) coppicing, deer and grey squirrel management, retention of deadwood, veteranisation, succession techniques and removal of tree species that are subject to disease control measures, invasive or of low ecological value.
- Employ veteranisation techniques (the deliberate damaging or wounding of trees) on mature trees to accelerate the development of features, and their associated microhabitats, typical of veteran trees.
- Buffer strips to be provided by scrub or grasslands, ditches, or natural woodland regeneration; should not include built elements (including back gardens).

Data, evidence and mapping needs for ancient woodland and ancient and veteran trees:

- Detailed mapping and identification of all veteran and ancient trees, through combined efforts between landowners, community, local authorities and land managers.
- Map out potential future veteran trees.

Priority WTH6 - Increase the extent of high-quality wet woodland in the county and improve connectivity with the freshwater habitat network.

	Potential measure WTH6.1 Establish and implement long-term management plans for wet woodland and surrounding land, which ensures connectivity between waterways and woodland and incorporates nature-based water management solutions, such as leaky dams, felling, blocking drainage channels to allow for seasonal flooding.
	Potential measure WTH6.2 Create of ponds within woodlands, and naturally regenerated riparian zones.

Priority species requiring wet woodland potential measures:
- Lesser Spotted Woodpecker

Priority species associated with wet woodland, requiring additional bespoke measures:
- Beaver
- Bechstein's Bat
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat
- Kentish Snake Millipede

Land management and land use principles for wet woodland:
- Consider downstream impacts when creating new wet woodlands.
- Take into consideration existing habitats to ensure there is no detrimental impact to other high value habitats and respect the landscape character.
- Where appropriate, use ecosystem engineers to maintain and enhance wet woodlands, ensuring these are combined with a clear communication, landowner engagement and management strategy before any action commences.

Priority WTH7 - Retain and safeguard the High Weald's unique gill woodland and the plant species they support and the important functions they provide for the wider river catchment.

	Potential measure WTH7.1 Create buffer zones around the gill woodland to ensure they remain largely undisturbed.

Land management and land use principles for gill woodland:
- Restore the natural function and geomorphology of gill streams that have been the subject of historical man-made interventions.
- Avoid management approaches that would harm the special character and species found in the woodland and its wetland features.
- Maintain the natural functioning and water quality of gill streams running through gill woodlands.
- Control of invasive species that may impact gill woodlands.

Priority WTH8 - The extent of species-rich hedgerows throughout the county is increased, with lost hedgerows replaced, gaps filled and management of existing hedgerows improving the quality as well as quantity. Hedgerows providing a coherent network of shelter, nesting and forage for wildlife across the landscape and allowing other habitats to be linked.

	Wider measure WTH8.1 Actively manage the county's hedgerows, fill gaps and remove invasive species; rejuvenate and restore hedgerows that have declined in structural condition. Increase the extent of hedge laying, coppicing and gapping up within this management.
	Wider measure WTH8.2 Buffer hedgerows with grass margins, scrub and headlands.
	Wider measure WTH8.3 Strategic siting of new and extended hedgerows to aid habitat connectivity and support species forage, shelter and movement; restore links to copse and woodland.

Priority species requiring hedgerow potential measures:

- Grasshopper Warbler
- Linnet
- Yellowhammer
- Hazel Dormouse
- West European Hedgehog

Priority species associated with hedgerows, requiring additional bespoke measures:

- Common Toad
- Great-crested newt
- Nightingale
- Tree Sparrow
- Turtle Dove
- Brown Hairstreak Butterfly
- White-letter Hairstreak Butterfly
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat
- Lappet Moth
- Adder

Land management and land use principles for hedgerows:

- Preserve and restore ancient hedgerows along ancient field patterns, in association with ditches and banks.
- Maintain a varied structure so there are some taller, denser areas and emergent trees, with tree root systems contributing to soil health, mycorrhiza and biophytes.

Supporting measures for hedgerows:

- "Hedgeucation" to support all aspects of planting, managing and restoring hedgerows; the funding available; and the benefits of hedgerows.

Data, evidence and mapping needs for hedgerows:

- Map and survey existing hedgerows to determine condition and quality and better target management.
- Map historic hedgerows to identify lost hedgerows and potential areas for establishment.

Priority WTH9 - An increase in traditional orchards, under sensitive management, supporting an abundance and diversity of wildlife.

	Potential measure WTH9.1 Restore and bring established traditional orchards back into positive management, including long sward length, wildflower meadow strips between trees, limited or no spraying, sensitive pruning and dead wood/ dying trees retained.
	Potential measure WTH9.2 Establish new community orchards, in appropriate areas and with a focus on urban locations.

Priority species requiring traditional orchard potential measures:

- Lesser Spotted Woodpecker
- Brown Hare
- West European Hedgehog

Priority species associated with traditional orchards, requiring additional bespoke measures:

- Common Toad
- Great-crested newt
- Noble Chafer Beetle
- Turtle Dove
- *Sarcodontia crocea* (Fungi)
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat
- Adder

Data, evidence and mapping needs for traditional orchards:

- Identify areas for the establishment of new community and reestablishment of traditional orchards.

Priority WTH10 - Appropriate and coordinated deer management in woodland and connecting areas, on a landscape scale, to reduce impacts and support new planting and natural regeneration.

Land management and land use principles for deer management:

- Implement culling activity in priority control areas, to achieve and maintain populations to a level of acceptable impact on the natural landscape.
- Install fences and other physical barriers to prevent deer damaging ecologically sensitive areas.
- Cross landownership/landscape scale approach to deer control.
- Ensure any infrastructure installations to address habitat fragmentation (e.g. wildlife crossings) do not enable unintended increased movement of deer.

Data, evidence and mapping needs for deer management:

- Improve understanding of deer numbers and distribution in Kent with surveys and assessment of impact.
- Establish ongoing monitoring to develop a clear and up to date understanding and establish priority areas for control.

Freshwater habitat priorities and potential measures

Ambition for freshwater habitat in Kent and Medway - **Our freshwater habitats are clean, sufficient and stable, in a healthy and good ecological state that supports an abundance and diversity of species. Catchments' functions are restored to deliver a connected mosaic of wet habitats, improving water quality and managing flood risk across the county.**

An overview of the county's freshwater habitat, pressures and threats, and the importance of, and opportunities for, recovering this habitat.

The country's freshwater catchments are wide and varied, featuring rivers and streams and their associated floodplains, and a range of habitats from groundwater-fed chalk streams and reedbeds, to fen and valley mires. These habitats are home to some specialist and iconic freshwater species, including Bullhead Fish, Kingfisher, Grey Wagtail and Water Vole.

The main freshwater rivers in Kent are the Medway, Stour, and Darent. The River Medway is a major tidal river and an east-west divide in mid-Kent. The River Stour is the major watercourse in East Kent, and the River Darent is a chalk stream. Chalk streams are a globally rare habitat, with only 250 in the world – approximately 65% of these are in England. Kent is particularly important due to its chalk geology, with chalk streams emerging from the North Downs and forming the source of the rivers Darent, Cray, Shuttle, Dour, Nailbourne and stretches of the Great Stour, Little Stour and North Stream. These rivers are typically characterized by their stable flow conditions, clear high-quality water and associated vegetation communities, as well as supporting wild brown trout populations.

Other important rivers in Kent include those on clay geology including the River Beult, the only riverine Site of Special Scientific Interest (SSSI) in Kent. Despite this designation, it is in unfavourable condition due to water quality impacts and physical modification of the river channel.

Reedbed, whilst not extensive can be found across Kent, with 545ha in total. Fen is the county's rarest freshwater habitat, with just 12ha in the Strategy area.

Ponds are important still-water wildlife habitats that support a variety of wetland plants and animals, but many have been filled in to facilitate human land uses or neglected over decades and are much less common now. There is 4,628ha of standing open water in Kent, covering 1.2% of the county. This includes natural

systems of open water areas such as lakes, ponds and pools, as well as man-made water bodies such as ditches, canals, reservoirs, gravel pits and flooded mineral workings.

The pressures of water scarcity and water pollution are high in Kent, the impact of this is increased due to multiple pressures including climate change, a growing population, aging and over-burdened water and wastewater infrastructure, and increased water demand. Within the county, river channels and riparian areas including floodplains, have been heavily modified to support human activities, water use and infrastructure.

Water quality in Kent and Medway is chronically impacted by nutrient pollution, particularly from nitrates and phosphates, which are key contributors to the failure of many water bodies in the region to achieve good ecological status. This is especially true in areas dominated by agriculture and wastewater discharge. The River Darent is the only river in Kent that does not receive discharges from major wastewater treatment works and is one of the few that currently meets environmental standards for nutrients. However, it is still affected by smaller, permitted discharges from private sources.

With increasing summer droughts, nutrient levels in rivers are expected to rise due to reduced dilution. Elevated nutrients can lead to eutrophication, reducing biodiversity among aquatic plants, invertebrates, and fish. In severe cases, algal blooms can deplete oxygen levels, causing extreme declines or die-offs. Untreated sewage discharges add further pressure, with toxic levels of ammonia posing acute risks to aquatic life. Drought also dries out natural riverbank habitats, leading to habitat loss for water voles and other species.

To safeguard water supplies in Kent, it’s essential to allow chalk aquifers to recharge naturally and to retain water in freshwater habitats such as nature reserves and protected wetlands. Over-abstraction—taking too much water from underground—prevents aquifers from refilling properly. This leads to low river flows in summer and less dilution of pollutants, making water quality worse.

Source Protection Zones (SPZs) are areas around groundwater sources—like wells and boreholes—used for drinking water. They help safeguard water quality by limiting nearby activities that could cause pollution, such as fuel storage or waste disposal. The Environment Agency uses SPZs to identify risks early and apply stricter controls closer to the source. In Kent, SPZs are commonly found over chalk aquifers in areas like Canterbury, Dover, Folkestone, Ashford, and the Medway Valley—places where groundwater is a key source of public water supply. These zones often overlap with grassland habitats, which can help support water quality using nature-based solutions. Because groundwater moves slowly, pollution is difficult to clean up once it occurs, so preventing it at the source is essential for safeguarding public health and the environment

Because land in and around river catchments is managed by many different landowners, farmers, and organisations, a more joined-up approach is needed to tackle water quantity and quality. The Catchment Based Approach (CaBA) brings together local communities, environmental groups, and public bodies to improve

rivers and wetlands at a landscape scale. CaBA Catchment Partnerships are active across all river catchments in Kent and Medway, working to reduce pollution and restore natural flows.

A wide range of actions are needed. These include changing land use, restoring natural river channels, planting reedbeds to filter pollution, and removing barriers that block fish migration. These measures help build resilience to climate change and support biodiversity across Kent's water environments.

Nature-based solution opportunities from freshwater habitat

Nature-based solutions in freshwater habitats often provide multiple benefits, addressing a number of different issues and requiring little maintenance or operational resources, making them efficient and cost effective.

Naturalising rivers, where appropriate, and reinstating wetlands not only increases the quality and quantity of habitats available, but can also improve the water quality, slow the flow of water and trap sediment in the wetland vegetation, reducing the amount that is entering rivers.

Restoring wetlands allows water to be held within the landscape and released slowly over time, reducing downstream flooding and maintaining summer low flows. The Ramsar Convention considers that the conservation of wetlands should form part of drought management policies (RCS, 2015) due to the key role they play in harnessing water in the landscape and releasing it slowly into the natural groundwater system. With our climate changing to wetter winters and drier summers, it is important to consider these natural options to cope with extreme weather events.

Wetland and wet grassland habitat are also significant carbon stores. When arable and neutral grassland is turned into wetland through damning ditches and restoring historic floodplains, it can increase carbon sequestration by up to 120 tonnes CO_2/ha.

Sustainable Urban Drainage Systems (SuDS) can help to reduce flood risk. They intercept surface water and provide temporary water storage, which reduces water entering drains and increases water infiltration into the ground. Integrating SuDS into planning for new developments in urban areas will significantly improve Kent's resilience to climate change as surface water run-off will be decreased. SuDS can also be retrofitted into existing green infrastructure as a means of improving surface water management.

Restoration of urban wetlands have also been shown to help regulate temperatures, reducing ambient temperatures in the built environments that surround the wetlands. Creating SuDS, ponds and swales not only helps to mitigate water run-off built environments but helps to cool it too.

Wider benefits of healthy and functioning freshwater habitat

In Kent 73% of our public water supply is taken from groundwater with the remainder from rivers or storage reservoirs. Chalk aquifers are key in terms of groundwater supply in Kent, and while demand and climate change may seem, beyond our control, healthy and functioning freshwater habitats above ground can have very positive effects on the health and well-being of the local population.

Nature rich rivers and streams in urban environments are vital in terms of the mental health benefits they bring, providing an opportunity to connect with nature. They are also the location of many recreational pursuits – a number of which rely on clean and healthy water.

When located close to urban populations and with access, freshwater habitats, provide a crucial health role, particularly for deprived communities where health issues may be prevalent.

However, often riverside access is poor and where it is provided, people need to feel safe and welcome and often there are other psychological barriers to overcome too.

Priority FW1 - All rivers and streams and their associated floodplains have a more natural form, free from physical modifications and barriers, allowing them to achieve at minimum good ecological status or potential and supporting natural processes. All freshwater habitats support a diverse native flora.

	Wider measure FW1.1 Monitor, manage, control expansion and remove invasive species from ponds, lakes, wetlands, rivers and streams and lowland drains.
	Potential measure FW1.2 Undo historical physical modifications which have disconnected rivers and floodplains and restore natural processes through a range of approaches including supply of woody material and allowing this to remain in the channel where not causing flood risk, restoring channel stage zero, restoration of historic meanders, bed raising, regrading banks to create shallow edges and establishing mosaics of water meadows, wet grasslands and wet woodlands, to allow inundation of floodplains above Q10 flows.
	Potential measure FW1.3 Restore more natural shape of channels by narrowing overwide channels, especially where siltation, uniform and low flows and lack of habitat diversity are a pressure.
	Potential measure FW1.4 Open up and daylight culverted rivers, streams and ditches including ephemeral/ seasonal streams where modification is redundant.
	Wider measure FW1.5 Increase longitudinal connectivity in rivers by removing redundant barriers and making remaining barriers passable for fish, riverine mammals and natural sediment.
	Wider measure FW1.6 Support the delivery of protected freshwater sites restoration plans, through addressing drought and water quality impacts across the wider catchment.

Priority species requiring rivers and streams potential measures:

- Grey Wagtail
- Kingfisher
- European Eel
- River Lamprey
- Sea Lamprey
- Smelt
- European Water Vole
- Opposite-leaved Pondweed
- True Fox-sedge

Priority species associated with rivers and streams, requiring additional bespoke measures:

- Common Tern
- Tinodes pallidulus (Caddisfly)
- White-clawed Crayfish
- Beaver
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat

Land management and land use principles for naturalised rivers and streams:

- Before the removal of any in-river structures, consideration should be given to the potential impact of that removal on the downstream ecology.
- Avoid removing downstream in-river structures where these are protecting White-clawed Crayfish from invasive Signal Crayfish and other non-native crayfish species.

Supporting measures for naturalised rivers and streams:

- County-wide/catchment-wide management strategy for freshwater invasives, including addressing distribution from headwaters and through vessels such as houseboats in the estuary.

Data, evidence and mapping needs for naturalised rivers and streams:

- Identify priority areas where channel shape needs restoration.
- Identify catchment areas where drought and water quality are impacting protected freshwater sites.

Priority FW2 - Ensure freshwater habitats and groundwater bodies are supplied with clean water, safeguarded from, and able to withstand, the impacts of pollution.

	Wider measure FW2.1 Discharge agricultural land drains into appropriate interception features in buffers, rather than the stream network.
	Wider measure FW2.2 Establish and manage functional buffer strips and other interception features for all flow pathways to hold run-off and remove pollutants including chemicals, nutrients and sediment, before it enters rivers and streams.
	Wider measure FW2.3 Reduce input of diffuse phosphate and nitrate pollution to surface and groundwater bodies through the use of integrated constructed wetlands and reedbeds in addition to hard engineered treatments.
	Potential measure FW2.4 Prevent road run-off entering rivers through the installation of SuDS or similar nature-based interception features on highways and local roads.
	Wider measure FW2.5 Reduce the risk of combined sewer overflows by reducing surface water entering the drainage system for example using SuDS, natural flood management measures or similar.

See Priority FW1 for relevant priority species.

Land management and land use principles for clean water:
- Address water on a whole farm basis and in the context of the catchment.
- Establish good farming practices to reduce run-off, including cover crops, minimum till, infield buffer strips and green swales, restoration of hedges across slopes, woodland and pond restoration in fields.

Supporting measures for clean water:
- Protect reaches currently least affected by effluent from new discharge points.
- Provide a water toolkit for landowners and farmers and provide opportunities for peer-to-peer learning.

Data, evidence and mapping needs for clean water:
- Increase the extent of water quality monitoring across rivers (including those not included in the Water Framework Directive monitoring) and habitats.
- Clearly map source of pollution incidents including sewage, litter and pesticides to directly address issues at source.

Priority FW3 - Freshwater habitats and groundwater bodies are supplied with sufficient water and resilient flows, supporting their natural hydrological and hydrogeological regime.

	Wider measure FW3.1 Safeguard rivers and freshwater habitats in county most sensitive to low water levels through measures to reduce abstraction and water use in catchment
	Potential measure FW3.2 Retain and enhance habitats that support infiltration such as grasslands, woodland, reedbeds and lowland peat. Avoid reduction of infiltration in key recharge areas and around chalk stream winterbournes.
	Potential measure FW3.3 Slow the flow and store water in the catchment in areas of low agricultural productivity or where there is space in urban areas, working with natural processes, to implement natural flood management e.g. through installation of large woody material, creation of wet woodlands, lowland meadows, reedbeds, flood attenuation ponds and similar, especially where they can reduce flood risk and provide clean recharge to the groundwater body.
	Wider measure FW3.4 Hold and slow water in headwater streams through nature-based solutions (leaky woody dams and large woody debris, reedbeds, etc), and approaches such as stage zero to restore more natural channel shape and processes especially where this can provide flood risk benefits and improve stable flows.

See Priority FW1 for relevant priority species.

Land management and land use principles for freshwater supply:
- Manage natural habitats and farmlands to maintain and restore infiltration ability by prioritising soil health and groundcover.

Supporting measures for freshwater supply:
- Reduce demand for water through increasing water efficiency measures, more sustainable use of water and use of alternative sources of water.

Data, evidence and mapping needs for freshwater supply:
- Identify and map drought and low flow hot spots.

Priority FW4 - Rivers, streams and springs and associated waterbodies have wide, more natural buffer strips with a diverse vegetation structure, which allow natural processes, provide a balance of light and shade, mosaics of wetland habitats, and safeguard from pollution and drought.

	Potential measure FW4.1 Establish and maintain wide areas of semi-natural, complex habitats along banks of rivers and streams (including seasonal and headwater reaches), allowing light grazing of wet grassland areas with a focus on native livestock breeds, and encouraging woodland particularly where there is need for more shading of rivers to provide cooler temperatures, increasing riparian tree cover to 30%. Allow natural regeneration of habitats and recolonisation.
	Potential measure FW4.2 Use re-development of old infrastructure as an opportunity to re-naturalise river corridors (e.g. old industrial sites).
	Potential measure FW4.3 Combine buffers with the use of nature-based solutions to hold water on floodplains and in areas upstream of communities at risk of flooding, and clean water. This could include for example large woody debris, sediment traps, floodplain wetlands.

See Priority FW1 for relevant priority species.

Land management and land use principles for buffered rivers and streams:
- Break field drains and block ditches where habitats next to the stream network can wet up permanently, ensuring agricultural land drainage is not impacted.
- Before the breaking of field drains and blocking ditches, consideration should be given to the potential impact of that action on the surrounding ecology.

Data, evidence and mapping needs for buffered rivers:
- Identify key sites which would benefit from permanent wetting.

Priority FW5 - Headwater streams have a natural form and natural processes, functioning as part of a mosaic of (seasonally) wet habitats including grasslands and woodlands, providing resilient flows to rivers and supporting a wide range of wildlife.

	Wider measure FW5.1 Safeguard headwater streams from agricultural pollution, erosion, and road run-off using semi-natural buffer strips and interception features.
	Potential measure FW5.2 Restore and establish wetlands in headwater areas and around natural springs, by reversing and preventing further drainage of springs and seepage areas.
	Potential measure FW5.3 Re-naturalise urban and modified sections of headwaters, including ephemeral streams such as winterbournes, (e.g. where they have been straightened and deepened to drain woodlands and agricultural land), including through approaches such as stage 0 restoration.

See Priority FW1 for relevant priority species.

Data, evidence and mapping needs for buffered rivers:
- Identify and map clearly, headwater streams and associated drainage areas.
- Identify and map sections of headwaters which require modifications to be reversed.
- Improve monitoring and understanding of the county's headwater systems and their water quality, flow and biodiversity.

Priority FW6 - Maintain and enhance ponds with high ecological value and restore those lost or degraded. Enhance lake habitats and create new ponds, especially as part of a mosaic of habitats. Safeguard all pond habitats from run-off pollutants and invasive species, while allowing successional habitats to develop where appropriate.

	Wider measure FW6.1 Restore ghost ponds, including restoration of dew ponds and dip slope ponds, hammer and furnace ponds.
	Wider measure FW6.2 Enhance lakes to include a mosaic of habitats and watercourses.

Priority species requiring pond and lake potential measures:

- *Haliplus variegatus* (Beetle)
- Kingfisher
- Pochard
- Shoveler
- European Eel
- European Water Vole
- True Fox-sedge

Priority species associated with ponds and lakes, requiring additional bespoke measures:

- Common toad
- Great crested newt
- Common Tern
- Brilliant Emerald Dragonfly
- Brown Long-eared Bat
- Shining Ram's-horn Snail
- Frogbit

Land management and land use principles for ponds and lakes:

- Connect ponds through associated habitats and ensure their connectivity in the landscape as part of a mosaic. Use this to reduce distance between waterbodies.
- Create ponds as nature-based solutions, including a treatment train for run-off and to capture rainfall events for example on farmland and in new developments to reduce flood risk.
- Restore native and appropriate plant and fish communities, considering removal of carp or planktivores.
- Safeguard ponds from agricultural run-off and road run-off by implementing and maintaining wide buffers around them, including consideration of livestock fencing.
- Manage entry of water by people and dogs.

Priority FW7 - Lowland mire sites (fen and valley mires) and lowland peat habitats are well managed and enhanced, with the provision of buffers to allow the habitat extent to increase.

	Potential measure FW7.1 Manage existing fen and bog sites to reduce encroachment, including through scrub management and appropriate grazing.
	Potential measure FW7.2 Create and maintain wide buffers around existing fen and bog sites to safeguard them from diffuse pollution.
	Potential measure FW7.3 Restore lowland peat habitats by reversing drainage and supporting re-wetting of areas.

Priority species requiring lowland mire sites potential measures:

- Black Night-runner Beetle
- Grasshopper Warbler
- Pochard
- Shoveler
- European Eel
- European Water Vole
- Opposite-leaved Pondweed

Priority species associated with lowland mire sites, requiring additional bespoke measures:

- Moss Carder Bee
- Shrill Carder Bee
- *Haliplus variegatus* (Beetle)
- Bittern
- Redshank
- Beaver
- Kentish Snake Millipede
- Marsh Mallow Moth

Land management and land use principles for lowland mire sites:

- Maximise opportunities for water retention including through the creation of bunds and management of water levels in associated drainage systems.

Data, evidence and mapping needs for lowland mire sites:

- Confirm extent of existing fen habitat and identify suitable areas for opportunities to create.

Priority FW8 - High quality natural reedbeds across Kent are increased, and existing reedbeds are in appropriate management.

	Wider measure FW8.1 Manage reedbeds to prevent encroachment of woodland, and by managing associated ditches and dykes, conservation grazing, minimal chemical interventions and consider management of saline flooding.

Priority species requiring natural reedbeds potential measures:

- Bearded Tit
- Marsh Harrier
- European Water Vole

Priority species associated with natural reedbeds, requiring additional bespoke measures:

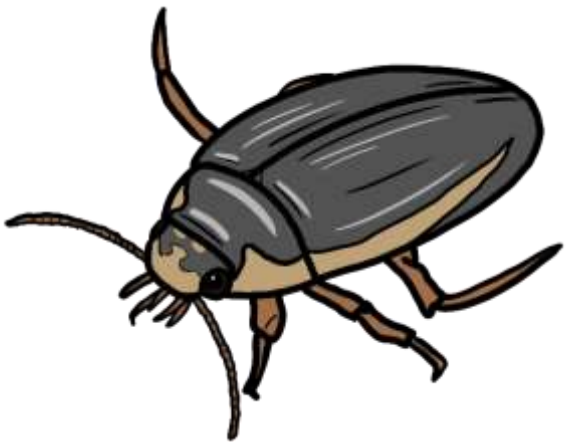
- Bittern
- Beaver

Land management and land use principles for natural reedbeds:

- Reedbed creation on lakesides with shallow edges, in disused quarry sites or similar open water sites.
- Create natural reedbeds along river corridors and integrate them with the wider landscape, allowing them to connect sites.

Data, evidence and mapping needs for natural reedbeds:

- Identify suitable project sites across the county for reedbed creation, including floodplains, industrial sites, quarries.



Priority FW9 - Enhance and restore wildlife-rich and functioning freshwater wetlands across the county, providing not only shelter, nurseries and breeding grounds but also carbon sinks and water management.

	Potential measure FW9.1 Enhance reservoirs and similar waterbodies to provide better wildlife habitat. Ensure any such water bodies include features that enable wildlife to get out of water.
	Wider measure FW9.2 Manage, restore and expand river valley wetlands, for example floodplain meadows, floodplain grazing marshes, reedbeds and mudflats.
More	Wider measure FW9.3 Provide opportunities for spring flooding (e.g. for waders) by creating water storage areas for winter rainfall.
Connected	Wider measure FW9.4 Connect existing wetlands through a mosaic of habitats.

Priority species requiring freshwater wetland potential measures:

- True Fox-sedge
- European Eel

Priority species associated with freshwater wetland, requiring additional bespoke measures:

- Brown Long-eared Bat

Land management and land use principles for freshwater wetlands:

- Allow a mosaic of habitats to develop within wetlands.
- Design new wetlands to function as water storage and retention areas, retaining water in high flows and releasing it slowly in dry periods.

Data, evidence and mapping needs for freshwater wetlands:

- Identify freshwater wetland areas affected by saltwater intrusion and prioritise areas for action to restore freshwater habitats, while maintaining a balance between saltwater and freshwater marshes.

Priority FW10 - Restore and enhance semi-natural lowland drains and associated marshlands through integrated water level management and habitat restoration to reduce flood risk, mitigate drought impacts and promote biodiversity.

Priority species requiring semi-natural lowland drains and associated marshlands:

- True Fox-sedge
- European Eel

Land management and land use principles for naturalised rivers and streams:

- Manage more sensitively by following natural cycles, including consideration of retaining in-channel vegetation, woody material, and partial desilting to create shallow margins where possible.
- Adapt vegetation management in channels to account for species present, including reducing or delaying cutting regime, and implementing alternative bank cutting on priority reaches and leaving a marginal fringe.
- Enhance lowland drains by introducing meanders, backwaters and associated ponds.
- Remove redundant barriers and ensure passability of remaining structures for eels and other fish and riverine mammals.
- Allow floodplain reconnection without removing floodbanks where this is likely to cause issues.
- Before the removal of any barriers and structures, consideration should be given to the potential impact of that removal on the surrounding ecology.
- Avoid removing structures where these are protecting White-clawed Crayfish from invasive Signal Crayfish and other non-native crayfish species.

Urban and built environment priorities and potential measures

Ambition for urban habitat in Kent and Medway - **Nature plays a central role in shaping the county's built-up environments, with wildlife provided for in a network of connected green, blue and grey spaces, which are also designed and managed to provide nature based solutions to the challenges facing those living in urban areas**.

An overview of the county's urban and built environment, pressures and threats, and the importance of, and opportunities for, recovering this habitat.

With 16% of the county covered by urban habitats, it's critical that any nature recovery work incorporates action for these areas. Habitats in the urban environment are varied and provide a lifeline for a range of wildlife, but many green spaces are not well managed for nature. They are often over-mown and manicured, with planting that offers no or little food source or shelter, and tree planting can be inappropriate and without the long term management needed to reach maturity.

Greenspace in residential areas is increasingly being lost to parking spaces, artificial grass, paving stones, decking, gravel and impermeable plastic layers. And often hedgerows are replaced with impenetrable fencing. This loss of "green" not only affects urban wildlife but also leads to a reduction in soil health and the increased pollution of water bodies. Further to this, new building designs and maintenance practices have led to a loss of nest and roosting sites in buildings for urban birds and bats.

However, developments present significant opportunities for nature through good design of green and blue infrastructure and careful consideration of the built aspect. This can range from hedges, planted verges and trees, to fencing which allows hedgehog and other wildlife movements to the installation of bird, bat and bee/bug boxes. And the mandatory requirement to leave more biodiversity than impacted, through Biodiversity Net Gain, also place new development as a key delivery mechanism for nature recovery.

Opportunities in existing urban areas largely relate to improving the management green space, linking together urban and rural green spaces to improve connectivity, addressing fragmentation across the urban landscape and increasing the amount of green space, trees and hedgerows.

In both scenarios the opportunities to provide enhancements for certain species, such as nest sites for swifts and access for hedgehogs, or approaches such as "No

Mow May" are considerable, and the public often respond very well to such initiatives.

Nature-based solution opportunities for urban and built environments

Within urban environments, there is a cross over with other habitat related nature-based solutions. For example, the previously mentioned planting of trees and hedgerows in urban areas and alongside major roads to tackle air quality, temperature regulation and carbon sequestration. Another opportunity for carbon capture and temperature and air quality regulation in urban spaces is provided by green walls, balconies and roofs, retrofitting to existing and designing into new developments.

Sustainable Urban Drainage Systems (SuDS) and swales are another freshwater management option which addresses water drainage issues in built environments. SuDS provides an effective way of alleviating flood and drainage issues for both existing urban areas and new developments, through the incorporation of swales, wetland and pond features. Green roofs can also offer water management benefits, absorbing rainwater and reducing run-off as well as neutralising acid rain. Permeable pavements and gardens are another way to reduce run-off and slow the amount of water entering combined sewerage systems.

Landscaping and planting can also provide nature corridors throughout built environments with the inclusion of grasses, wildflowers, trees and hedgerows. This provides forage and shelter and also increases opportunities for the migration of species, particularly pollinators, through the urban environment, increasing pollination for areas outside towns and cities as a result.

Wider benefits of healthy and functioning urban and built environments

A healthy and functioning natural environment including clean and plentiful water, good air quality and suitable green and blue infrastructure, should be the first consideration before any housing development goes ahead, as these wider benefits are essential to providing good conditions for people as well as wildlife.

Biodiversity supports people's health and wellbeing through day to day connection with nature, bringing benefits to mental and physical health, but also through the regulating services it provides – including contributing to clean air and temperature regulation. These wider benefits can reach people most readily in the urban environment, but only if nature is properly considered as part of infrastructure and the benefits of existing habitats and green spaces recognised.

Connection with nature and health and wellbeing benefits can be realised in urban environments with plenty of green space/wildlife corridors, but particularly when

habitats have been improved, increased, added to or joined up close to populations lacking in natural greenspace.

Opportunities to deliver for both people and wildlife include:

- Green transport routes, allowing both people and wildlife to navigate through the urban landscape.
- Access and stepping stone green sites give variety of experience of natural green space from town to countryside, with health and well-being benefits for people and habitat provision for wildlife.
- Allotments and orchards provide healthy activity for people and connection with nature.
- Community projects focused on improving green areas for nature offer health benefits and combat loneliness and isolation, whilst also benefiting wildlife.
- Gardens, parks, verges, window boxes, SuDS, tree planting, green roofs all help to bring nature close to people in urban environments.

Priority URB1 – Address habitat fragmentation of the urban and built environment, ensuring urban species can freely move about and developed areas and infrastructure does not impede passage.

	Wider measure URB1.1 Employ conservation cuts, minimise mowing and leave wild strips, buffers and corners on verges and grass areas in areas known to be of importance for pollinators connectivity.
	Wider measure URB1.2 Enhance and safeguard existing greenspace and trees that provide key stepping stones between larger natural spaces that are either within or at the edge of urban areas.
	Wider measure URB1.3 Establish wildlife corridors and provide habitat stepping stones across urban and developed landscapes by enhancing, extending and creating new green spaces, ponds, tree cover, green roofs and walls and wild verges/swathes.

Priority species requiring urban environment connectivity potential measures:

- Barn Owl
- Hazel Dormouse
- West European Hedgehog

Priority species associated with urban environment, requiring additional bespoke measures:

- Common Toad
- Moss Carder Bee
- Shrill Carder Bee
- House Martin
- Swift
- Brown Long-eared Bat
- Leisler's Bat
- Noctule Bat
- Serotine Bat

Land management and land use principles for addressing habitat fragmentation in the urban and built environment:

- New builds to minimise impact on species mobility by ensuring any boundary features are passable and that landscaping provides wildlife corridors and passage across the development site, with connections out to wider landscape, including natural grass lawns, shared green space with dedicated wildlife areas, native, uninterrupted hedgerows and tree canopy.
- Establish native mixed hedgerow and street trees to link urban greenspaces and to connect these areas to the wider landscape and rural fringes.
- Use green roofs, walls and other features at bus shelters, bus and train stations and bridges to extend the wildlife network.
- Green bridges and tunnels installed (or existing crossings modified) to traverse new and existing barriers to wildlife movement in the urban environment.
- Safeguarding to be delivered through setting aside land and/or putting in place active management that prevents loss of, or damage to, the habitat.

Supporting measures for addressing habitat fragmentation in the urban and built environment:

- Incorporation of measures to address habitat fragmentation made standard practice for all new builds across the county.
- Land use planning to support the safeguarding of areas that are strategically important in reducing habitat fragmentation in the urban environment by setting aside land and/or putting in place land use restrictions and management that prevents loss and damage.
- Mobilise the population of Kent to help support connectivity through wildlife friendly gardening measures, retention of grass, hedgerows and trees, and ensuring any boundary features are passable.

Data, evidence and mapping needs for addressing habitat fragmentation in the urban and built environment:

- Identify and map existing barriers to wildlife movement in the county's major towns.

Priority URB2 - Deliver benefits for wildlife and support its recovery and growth in the urban environment through greenspace, building and land management.

	Potential measure URB2.1 Areas of urban greenspace managed to maximise provision for nature in urban areas, providing a greater complexity of habitats, with year round shelter, forage and food.
	Potential measure URB2.2 Naturalise urban river corridors, by removing river obstacles where appropriate and replacing hard river banks with native buffer verges and riverside trees.
	Potential measure URB2.3 Target tree establishment to areas of low canopy cover.

See Priority URB1 for relevant priority species.

Land management and land use principles for supporting wildlife recovery in the urban environment:

- Integrate year round wildlife habitat, shelter, forage and food in new and existing development by designing in, and retrofitting, features and landscaping that are appropriate to local species, maintainable and sustainable. Particular priority should be given to Local Nature Recovery Strategy priority species associated with the urban environment, where the population is locally significant or species known to be declining. General consideration should also be given to typically urban species seeing a decline in numbers, such as House Sparrows and Starlings. Such features include swift bricks, house martin artificial nest cups, nest boxes, bat tiles, hedgehog highways, bug hotels, reptile refugia (all installed in accordance with best practice guidance). Landscaping includes food plants, structural features for hibernation and overwintering, a mosaic of habitats and varied landforms and water features.
- Use green roofs, walls and other features at bus shelters, bus and train stations and bridges to provide additional areas of shelter, forage and food within built up areas.
- Minimal, and if possible, no use of pesticides and herbicides.
- Plant the right trees, in the right place and with appropriate management to ensure their successful establishment.
- Before the removal of any in-river structures, consideration should be given to the potential impact of that removal on the downstream ecology.
- Avoid removing downstream in-river structures where these are protecting White-clawed Crayfish from invasive Signal Crayfish and other non-native crayfish species.
- Ensure any measures taken are in keeping with the local landscape setting and character.

Supporting measures for supporting wildlife recovery in the urban environment:

- Incorporation of ecological features as standard practice for all new builds across the county.
- Safeguard existing nest sites for building- dependent species, such as Swifts and House Martins. Mitigation to be provided where these cannot be safeguarded.

- Use of interpretation/public information to increase understanding of wildlife features and wild management.

Priority URB3 - Safeguard and increase the extent of green space, trees and hedgerows within urban areas to not only provide more habitat for wildlife but also deliver other benefits including urban cooling, air and noise pollution regulation and surface water management.

	Wider measure URB3.1 Trees and hedgerows specifically planted to deliver air quality, temperature regulation/cooling and surface water management benefits and targeted to areas where it is most needed and will deliver the greatest impact.
	Wider measure URB3.2 Prioritise the use of natural flood management/nature-based solutions over engineered, hard solutions, to manage areas at high risk from surface water flooding.
	Wider measure URB3.3 New and retrofitted green walls and roofs to enhance biodiversity, whilst also providing temperature regulation in settings most at risk from urban heat island effects.
	Wider measure URB3.4 Increased green and blue infrastructure, and more natural space, is targeted to communities where it is most needed to deliver health and wellbeing benefits and greater connection with nature.

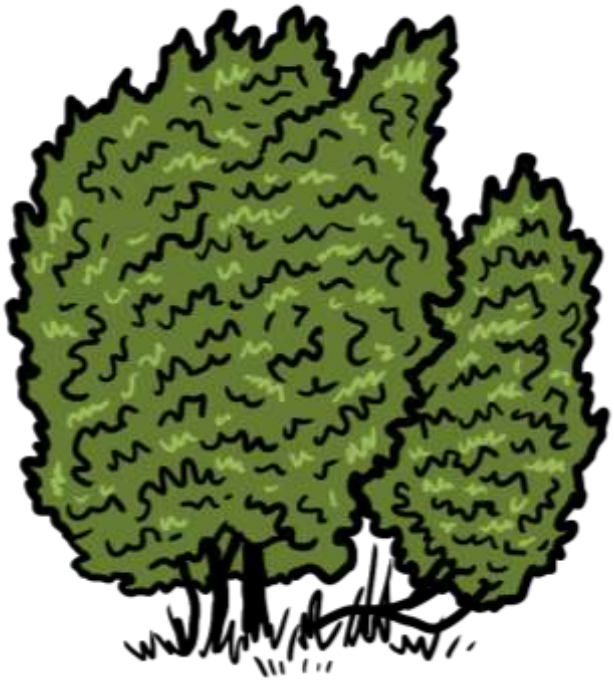
See Priority URB1 for relevant priority species.

Land management and land use principles for nature-based solutions in the urban environment:

- Ensure any measures taken are in keeping with the local landscape setting and character.

Supporting measures for nature-based solutions in the urban environment:

- Use of interpretation/public information to increase understanding of how nature is being used to deliver services and benefits.
- Nature-based solutions installed with long term management in place that ensures the retention and maintenance of the benefiting features.



Data, evidence and mapping needs for nature-based solutions in the urban environment:

- Identify and map priority areas that have severe heat stress, in order to target the use of green infrastructure.

Coastal priorities and potential measures

Ambition for coastal habitat in Kent and Medway - **Coastal and estuarine areas are allowed to evolve, with natural processes and progression restored, to enable adaption and resilience to climate change. Management of habitat succession is delivered strategically and holistically, to minimise loss and support a range of high functioning, connected coastal habitats.**

An overview of the county's coastal habitat, pressures and threats, and the importance of, and opportunities for, recovering this habitat.

The Kent and Medway marine, intertidal and coastal area is extensive and rich in biodiversity, with habitats ranging from blue mussel beds and ross worm reefs to saltmarsh, mudflats, chalk reefs, sand dunes and vegetated shingle. This contributes to the wider UK marine environment, which has the widest range of marine habitats of any coastal waters in Europe.

The intertidal area, exposed as the tide moves in and out, often takes the form of mudflats around the Kent coast and in particular across North Kent. Mudflats have a high biological productivity with abundant invertebrates such as Ragworms, Lugworms, Sandhoppers, Cockles and *Hydrobia* Snails that provide food for internationally important populations of migrant and wintering wading birds. Coastal saltmarsh is another habitat of the intertidal area, again mainly found around the North Kent and east Kent. It is rich in rare and scarce plant assemblages, but it is also an important resting and feeding area for wading birds. Over 80% of the intertidal area in Kent is designated and protected.

Across the North Kent Marshes, there is an association between the intertidal habitats and freshwater grazing marsh behind the sea walls – with wildfowl and wading birds commuting between the two areas, depending on the state of the daily tides.

Saline lagoons are a rare and restricted habitat. Cliffe Pools near Gravesend, managed by the RSPB, is the most notable example in the county but there are other smaller, isolated sites which all together make up the 286ha of resource. These sites are important for an assemblage of specialist lagoon invertebrates, breeding terns, Avocets and wintering wildfowl and waders.

Seagrass beds are a rare habitat nationally – the 2012 Kent Habitat Survey recorded just 29.4ha, with more than half of this found in water off Medway. Seagrass need good levels of light to photosynthesise, so they grow in shallow waters and sheltered areas, such as estuaries, bays and inlets. Seagrass is the food plant of the Brent Goose which winters in Kent.

Native oysters fuse together as they grow, forming rock-like reefs that provide another habitat for other marine animals and plants. Native oyster reefs are mainly found in the Thames estuary.

Sand dunes occur mostly on the south and east coast of Kent in small areas such as Sandwich Bay and Greatstone Beach. Sand dunes are ever changing structures, but provide important homes for a variety of unique flora and fauna.

Generally vegetated shingle occurs mainly in small, narrow strips at various locations along the Kent coastline. Narrow bands of shingle may support annual vegetation of drift lines, and in some places, perennial vegetation of shingle may develop. At Dungeness, however, an extensive cuspid shingle foreland has been formed by the action of storms over many centuries. This extensive area of around 2,000ha, supports a unique series of habitats and is the UK's largest shingle structure (there are only five other structures over 100 ha in extent in the UK) making it both nationally and internationally important. A variety of rare invertebrates and plants are dependent on vegetated shingle, their concentrations varying dependent on the extent to which the normal tide limit reaches these areas, but the whole habitat is dependent on dynamic coastal processes.

Chalk defines a lot of Kent geology and ecology and for the coast this is no exception, with both maritime chalk cliffs and chalk reef providing important habitat.

There is 415ha of intertidal chalk around the coastline of Kent, accounting for 56% of England's chalk coastline. The Thanet coast has the second largest unbroken stretch of chalk reef in the UK, at 23km, which offers up a large area of intertidal and subtidal habitats, including chalk caves that are home to unique algal species. The diverse substrates – ranging from sand and coarse sediments to chalk rock, support a variety of marine life including the rare Stalked Jellyfish.

Kent has a number of other marine habitats including, clay, greensand, intertidal rock, offshore sandbanks, Blue Mussel beds and Ross Worm reefs.

The Kent coast and marine area is facing a range of pressures. Sea levels in England have risen by 16cm since 1900. For Kent, the sea level is expected to rise by up to 30cm by 2040 and 80cm by 2080. The impact of sea level rise is exacerbated for habitats such as saltmarsh and mudflat, which are gradually lost as they are squeezed against the man-made walls that are put in place to prevent inundation by the sea. In certain areas, sea walls can be removed as part of a managed realignment, so saltmarsh and mudflat can migrate landward. The impacts on habitats such as freshwater grazing marsh and saline lagoons on the landward side of sea walls also need to be managed.

Another effect of the urban coast and man-made/hard infrastructure is that habitats cannot always act in a natural dynamically functioning way. Vegetated shingle requires longshore drift to replenish itself, a process which is disrupted by our coastal infrastructure.

Increased sea temperature and reduced oxygen levels have a significant impact on a range of species, including cold water fish, while acidification negatively affects

calciferous species. Increasing temperatures may also create a more hospitable environment for pests, diseases and invasive non-native species. The latter, such as the Carpet Sea Squirt, have colonised, at the expense of some native species, in areas where they were previously unable to survive.

Coastal waters in Kent are polluted by a number of factors, including agriculture, land management, sewage and fuel and other spillages from shipping.

The human population in Kent is considerable and growing and the coast is an obvious place for recreation, both on land and water. This is having a negative impact on wildlife in some areas, particularly for birds which are easily disturbed. Disturbance reduces the birds' feeding opportunities, meaning they may have insufficient energy to survive the winter or to complete their migratory journey to their breeding sites, leading to a reduction in the bird populations.

Nature-based solution opportunities from coastal habitat

Our coastal habitats are the first line of defence for the effects of climate change. Coastal saltmarshes can help buffer increased storminess, by absorbing the energy of powerful waves. Studies that have modelled the benefits of saltmarsh habitat to reduce wave impacts, suggest that up to 50% of wave energy can be attenuated in the first 10-20 metres of vegetated saltmarsh, which in turn would reduce the scale of artificial defences needed on the landward side.

Saltmarshes, seagrass, sand dune grasses and kelp beds, as well as coastal grazing marsh, sequester carbon and reduce soil and sand erosion from coastal sites. Most blue carbon is stored in the soil, below ground which differs from forests. Erosion of these sites is a considerable problem, releasing stored carbon into the atmosphere when damaged. Estuarine expansion could provide additional carbon storing habitats. Repurposing sediment dredged from nearby harbours could be used to build up and restore these habitats and provide protection from sea level rise. The beneficial use of dredged sediment (BUDS) is a practice that is being considered for areas in the Thames Estuary.

Coastal habitats also play an important role in pollution control by filtering pollutants and contributing to nutrient cycling. Saltmarshes and seagrass beds can trap sediment, nutrients, and pollutants carried by run-off from land. This helps to reduce the amount of pollution entering coastal waters and helps maintain water quality. In addition, they can help to remove excess nutrients from the water, which in turn prevents harmful algal blooms. Our Native Oysters are also a powerful tool in water quality management, with a single Native Oyster filtering over 200 litres of seawater per day.

Wider benefits of healthy and functioning coastal habitat

Access to coastal habitats near coastal urban populations provide mental health benefits and the opportunity to connect with nature. Coastal and marine areas are

also the location of many recreational pursuits – a number of which rely on clean and healthy water. However, some recreational pursuits in these areas do conflict with the wildlife that relies on these coastal habitats.

Fisheries industries benefit from healthy and functioning marine and coastal habitats, but sustainable fishing practices are also part of the answer to some of the pressures facing marine species.

Note: the priority and potential measures for grazing marsh can be found under grassland habitats (GL2)

Priority CL1 - Sustainable and strategic management of estuaries and open coast to create functionally linked coastal habitats that are allowed to evolve, creating areas for wildlife to thrive. Natural dynamic processes and progression is restored, to enable adaption and resilience to climate change and minimise the loss of intertidal habitats.

	Wider measure CL1.1 Where hard defences must remain, apply the "greening the grey" approach, following Estuary Edges design principles to soften edges to encourage wildlife.
	Wider measure CL1.2 Refuges for wildlife created with access managed to reduce disturbance.
	Potential measure CL1.3 Hard defences removed where appropriate (ensuring that both the natural and built environment is not at risk of inundation, damage or loss as a result), to allow space for tidal ingress and enable the managed realignment of the coastline, to mitigate coastal squeeze and allow intertidal habitats to be more resilient to climate change.
	Potential measure CL1.4 Create areas for saltmarsh restoration, seagrass regeneration and high tide roosts and provide breeding areas for seabirds and/or waders, with appropriate measures to prevent or reduce disturbance and predation.
	Wider measure CL1.5 Hard defences removed where appropriate to enable reconnection of fragmented habitats through managed realignment.

Priority species requiring open coast and estuaries potential measures:

- Oystercatcher

Priority species associated with the open coast and estuaries, requiring additional bespoke measures:

- Four-banded Weevil-wasp
- Leaf Beetle
- *Ophonus puncticollis* (Beetle)
- Little Tern
- Redshank
- Ringed Plover
- Sand Martin
- Sandwich Tern
- Fisher's Estuarine Moth
- Juniper
- Ox-tongue Broomrape

Supporting measures for the open coast and estuaries:

- Establish a strategic management approach which recognises, minimises and mitigates the likely loss of one habitat over another as a result of managed realignment.

Priority CL2 - Reduce small scale loss, improve condition and increase connectivity of saltmarsh and mudflats, providing functioning ecosystems that are safeguarded from recreational disturbance.

	Wider measure CL2.1 Maintain high tide roosts and nesting sites, with key sites fenced off, to limit disturbance and safeguard inland feeding, breeding and overwintering areas.
	Potential measure CL2.2 Small-scale saltmarsh restoration. using traditional materials to slow down loss.
	Potential measure CL2.3 Create new high tide roosts, in areas less vulnerable to rising sea levels.
	Wider measure CL2.4 Link areas with other wetland habitats to form a landscape mosaic of wetlands to reduce the tendency for waders and seabirds to be concentrated at key hotspots and reserves.

Priority species saltmarsh and mudflats potential measures:

- Shoveler
- Waders & Wildfowl
- Duffey's Bell-head Spider
- Yellow-striped Bear-spider

Priority species associated with saltmarsh and mudflats, requiring additional bespoke measures:

- Sea Aster Bee
- Borrer's Saltmarsh-grass
- Brent Goose
- Common Tern
- Lapwing
- Redshank
- Ringed Plover
- Borrer's Saltmarsh-grass
- Least Lettuce

Land management and land use principles for saltmarsh and mudflats:

- To support fish nurseries, use embryonic structures and channels to create natural drainage channels (ripples, eddies, pools and meanders), saltmarsh islands, and minimise over-engineered structures.
- Create more space for nesting seabirds to avoid competition and predation.
- Create areas for saltmarsh restoration by raising the height of the coastline through managed realignment and the “beneficial use of dredged sediment”.

Data, evidence and mapping needs for saltmarsh and mudflats:

- Identify and monitor saltmarsh and mudflat recreational disturbance in order to better target preventative measures.

Priority CL3 - Reverse the decline in seagrass off Kent's coast to safeguard this important habitat for marine species and their breeding grounds and nurseries; and to preserve its vital function as a blue carbon store.

	Potential measure CL3.1 Address threats to seagrass beds by putting in place management which: - Reduces and addresses pollution sources impacting seagrass restoration and growth. - Removes invasive spartina where it is known to be invading, smothering or limiting seagrass extension and restoration. - Minimise damage from boat anchors, dredging, fishing and trampling.
	Potential measure CL3.2 Increase areas of existing seagrass beds.

Priority species requiring seagrass potential measures:
- Short-snouted Seahorse
- Spiny Seahorse

Priority species associated with seagrass, requiring additional bespoke measures:
- Brent Goose

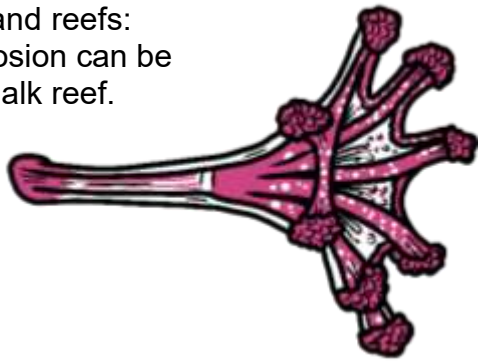
Land management and land use principles for seagrass:
- Address and minimise pollution of coastal waters.

Data, evidence and mapping needs for seagrass:
- Identify priority areas for sampling of water quality and corrective action.

Priority CL4 - Chalk cliffs and reef communities thrive in their natural state and are safeguarded from damage from recreational and leisure activities, development and bottom fishing methods.

	Wider measure CL4.1 Management of problematic non-native species.
	Wider measure CL4.2 Control leisure boat and other recreational activity in chalk reef areas.

Data, evidence and mapping needs for chalk cliffs and reefs:
- Identify new sections of profile where natural erosion can be allowed to occur, forming new sea caves and chalk reef.



Priority CL5 - Sustainable management of native reef building shellfish to allow them to reach their habitat providing potential.

	Potential measure CL5.1 Safeguard established areas of Native Oysters and Blue Mussels by developing protected areas with management measures, in collaboration with local stakeholders, including the local fishing community.
	Potential measure CL5.2 Where practical, remove invasive, non-native species from the beds of Native Oysters and Blue Mussels.
	Potential measure CL5.3 Create suitable substrate for native oysters to colonise, focussing on existing/historic areas, and address the lack of larvae in the landscape.
	Potential measure CL5.4 Create suitable substrate for Blue Mussels to colonise, focussing on existing/historic areas.

Data, evidence and mapping needs for Native Oyster and Blue Mussel beds:

- Map and monitor the Native Oyster and Blue Mussel beds to identify priority areas and actions for restoration.

Priority CL6 - Saline lagoons are appropriately safeguarded and managed to increase their resilience and adaptation to climate change and secure their ecological functions, including the role they will play as transitional habitats.

	Potential measure CL6.1 Safeguard existing saline lagoons from loss and damaging activities that harm and/or pollute the lagoons.
	Potential measure CL6.2 Establish buffer zones and/or adjust site features and topography, to ensure ecological function of saline lagoon is not undermined by disturbance; enhance marginal habitat
	Potential measure CL6.3 Create new saline lagoons to connect wetland sites in transitional areas that are likely to flood, taking into account proximity to sources of recreational disturbance.

Priority species requiring saline lagoon potential measures:

- Tentacled Lagoon Worm
- Pochard
- Shoveler

Priority species associated with saline lagoons, requiring additional bespoke measures:

- Brent Goose
- Common Tern
- Little Tern
- Redshank
- Ringed Plover
- Sandwich Tern

Data, evidence and mapping needs for saline lagoons:

- Identify where future new saline lagoons will be required to ensure provision of their ecological function as transitional habitat at the coast.

Priority CL7 - Safeguard and restore vegetated shingle, ensuring there is no unavoidable loss and areas remain in, or are returned to, a favourable condition.

	Potential measure CL7.1. Safeguard existing habitat through access management and interventions (e.g. allocated routes and boardwalks) that minimise the impact of footfall and recreational disturbance on this delicate habitat.
	Potential measure CL7.2 Safeguard and extend supporting habitats, such as species-rich grasslands, next to coastal shingle that can act as seepage areas and support a mosaic of habitats for important coastal shingle species.

Priority species requiring vegetated shingle potential measures:

- Oystercatcher
- Brown Hare

Priority species associated with vegetated shingle, requiring additional bespoke measures:

- Long-spined Ant
- *Anthicus bimaculatus* (Beetle)
- *Smicronyx coecus* (Beetle)
- *Ophonus puncticollis* (Beetle)
- Kentish Clown
- Ringed Plover
- Wheatear
- *Cladonia mitis* (Lichen)
- Sussex Emerald Moth

Priority CL8 – Restore sand dunes, enabling, where possible, the natural mobile function of the dune system to be reinstated or use management to maintain a full range of successional stages of sand stabilisation across the dune system.

	Potential measure CL8.1 Management of dunes to reduce scrub encroachment, remove invasive species and reduce disturbance pressures of recreational activities. Management to include year-round low intensity grazing in the absence of endectocides, and with high quality fodder in winter to maintain high dung quality.
	Potential measure CL8.2 Enable more naturalised and mobile sand dune systems, through a full range of successional stages of sand stabilisation across the dune system, from mobile sparsely vegetated foredunes, young dunes with dense Marram Grass clumps, to more established dunes with varied vegetation, stable sandy grassland or heath, open sandy areas and dune slacks. Address overstabilisation of the dunes to increase dune mobility and sand movement.

Priority species associated with sand dunes, requiring additional bespoke measures:

- Four-banded Weevil-wasp
- Long-spined Ant
- *Anthicus bimaculatus* (Beetle)
- Dune Tiger Beetle
- East Coast Dune-walker
- Sandwich Click Beetle
- *Ophonus puncticollis* (Beetle)
- *Hohenbuehelia culmicola* (Fungi)
- Forester Moth
- Sand Running Spider
- Greater Streaked Shieldbug
- *Prostemma guttula*
- Bedstraw Broomrape
- Bur Medick
- Green-winged Orchid
- Heath Dog-violet
- Lizard Orchid

Land management and land use principles for sand dunes:

- Maintain the water table in dune slacks but not to deepen them, to make them permanently wet.
- Discourage the removal of biodegradable material from the foreshore and dune.

Priority CL9 - Reduction in coastal wildlife disturbance resulting from leisure pressures at the coast.

	Wider measure CL9.1 Develop zoned recreational areas that limit, restrict or prevent leisure activities which can disturb wildlife and damage sensitive habitats; safeguard offshore islands.
	Wider measure CL9.2 Building up of existing and creation of new seal haul out sites, which are adequately managed to provide safe areas for them.

See all coastal priorities for relevant priority species.

Supporting measures for reducing coastal wildlife disturbance:

- Support management measures by increasing wardens at key sites and installing signage and fencing as appropriate, based on up-to-date guidance

Data, evidence and mapping needs for reducing coastal wildlife disturbance:

- Identify and map key and vulnerable sites in order to better target preventative measures.

Species priorities and potential measures

Ambition for species in Kent and Medway - **Habitat management, restoration, extension or creation is specifically targeted to halt the decline, and support the recovery, of the Strategy's priority and threatened species and in doing so, reduces the risk of losing species through extinction from the county.**

Overarching approaches to ensure that the Strategy benefits all rare, threatened and significant species in Kent and Medway

Although the Strategy development process requires a focussed list of priority species, identified as the species in most urgent need amongst other considerations, it is still important to take account of all the county's rare, threatened and significant species in any habitat management, restoration, extension or creation work.

The Strategy therefore identifies overarching approaches that ensure this wider suite of species, whilst not the focus of bespoke action, still benefits from action taken with the Strategy area.

1. During the design of works to deliver a Strategy potential measure, the habitat assemblages of the species longlist (see Appendix 2.2) should be consulted for the relevant habitat and all action should consider and take account of the species that depend upon it, recognising and supporting the interdependencies that exist.

Where works are taking place in locations where a long-list species for Kent and Medway is known to occur, the habitats, structures, host species or other features supporting the species concerned should be maintained in extent and quality, and, where possible, should be locally extended, improved and connected.

Where works are taking place in locations where a long-list species for Kent and Medway was previously known to occur and/or might naturally establish populations, planning and delivery of land-use planning, nature conservation activities, or other land-management work should take the needs of the relevant species into account. This should include avoiding action which would decrease the ecological connectivity between potential sites and those sites already supporting the relevant Kent and Medway Local Nature Recovery Strategy long-list species.

2. During the design of works to deliver a Strategy potential measure, and where those works occur on or near the borders of the Strategy area, the neighbouring Local Nature Recovery Strategy's priority species list should be consulted to ensure that action in the Kent and Medway Strategy area does not undermine efforts for that species in the neighbouring area. Opportunities to facilitate the spread of a local population within the works should be identified, particularly where that species is currently absent from the county.

3. Action design should also recognise the contribution that species may make to the habitat and utilises, where appropriate, species within its management to help deliver more dynamic, natural, intact and climate resilient ecosystems.

Kent and Medway Local Nature Recovery Strategy priority species and potential measures

The below sets out the agreed priority species for the Kent and Medway Local Nature Recovery Strategy area. In total there are 146 priority species – this is a large number of priority species but is a reflection of the large number of species in the original species long-list. These priority species represent 11% of the county's rare, threatened and significant species – it is expected that targeted action for these 146 species will offer wider benefits to the other 1210 species not identified as a priority.

The breakdown of priority species across the different taxa is as follows:

Taxa	**Number of species identified as a priority**
Amphibian	2
Annelid	1
Bee, Wasp and Ant	9
Beetle	18
Bird	31
Butterfly	13
Caddisfly	1
Crustacean	1
Dragonfly and Damselfly	1
Fish	6
Fungi	5
Grasshopper, Cricket & Allies	2
Lichen	2
Mammal	10
Millipede	2
Mollusc	1
Moth	16
Reptile	1
Spider	4
True Bugs	2
Vascular Plant	18

The non-statutory guidance on priority species for a Local Nature Recovery Strategy recommends that only species that require bespoke measures are identified and that these bespoke measures are presented alongside the relevant species. However, acknowledging that many of the habitat measures designed for the benefit of a priority species offer wider benefits to other species of that habitat assemblage, it was determined that these should be embedded into the habitat potential measures.

Consequently, a number of the Kent and Medway priority species, whilst meeting the criteria as a priority, seemingly do not have dedicated potential measures – these are noted in this chapter as priority species requiring broad habitat measures, and the relevant habitat priority is identified alongside these.

Where a species requires a bespoke measure that will only benefit that particular species, these are noted in this chapter as priority species requiring bespoke measures – the bespoke measures for the priority species are provided in Appendix 3.1.

Amphibian priority species

Of the five native species of amphibian in Kent, two are frogs and toads, and three are newts. They are the Common Frog, the Common Toad, the Smooth Newt, the Palmate Newt and the Great Crested Newt. The Great Crested Newt has European Protected Species status, and the Common Toad is on England's list of species of principal importance. All these amphibians have partial protection under the Wildlife and Countryside Act. The Natterjack Toad became extinct in Kent in the 1960s and native Pool Frogs have never been recorded in the county.

Amphibians are dependent upon the presence of breeding ponds with suitable terrestrial habitat. Lowering of pond density can result in damaging levels of population fragmentation. The Low Weald has the highest pond density in Kent and is consequently the stronghold of Great Crested Newts.

Although trends at a county level are difficult to establish, the distribution and status of Kent's amphibians is better known now than ever before, and expert opinion suggests that populations of all of Kent's amphibian species are reasonably stable. However, significant losses of all species are likely to have occurred throughout the 20th Century that were primarily linked to the loss of breeding ponds. The Marsh Frog has become established in Kent over the last 80 years and the range of the species continues to expand. The impact of the Marsh Frog on native amphibian species is still unclear.

Habitat availability, disease and climate change all pose considerable threats to amphibian species.

Priority species requiring bespoke measures (see Appendix X for details of measures)
• Common Toad • Great Crested Newt

Annelid priority species

Annelid species, also known as segmented worms include Bristleworms (*Polychaetes*), earthworms and leeches and are found in the sea, on land and in freshwater.

Bristleworms are found throughout the intertidal zones of the county and form park of the rich foraging grounds of north Kent. The Tentacled Lagoon Worm is a tiny bristle worm that creates and lives in tubes made of mud within its estuarine habitat. It has numerous tentacles around its mouth, which it uses to feed on the surrounding mud. It is a nationally scarce species, found in the Medway Estuary, and is particularly vulnerable to changes in its habitat. The Medway Estuary Marine Conservation Zone is the only designated area where the Tentacled Lagoon Worm is protected.

An annelid of particular note in the county is the Medicinal Leech, with significant populations found at various locations across Romney Marsh.

Priority species requiring broad habitat measures	**Relevant LNRS priority**
Tentacled Lagoon Worm	Saline lagoons CL6 Mudflats CL2

Bee, Wasp and Ant priority species

Ants, bees and wasps (*Aculeates*) in Kent total 523 species. However, 42 of these are regarded as extinct meaning that the current total of extant species is 481, which includes 219 species of bee, 221 species of wasp and 41 species of ant. Kent has a nationally important *Aculeate* fauna, with one of the highest diversities in the UK. This results from a diversity of habitat types with suitability for a broad range of species, warm summers and the county's proximity to Europe, with the continent providing a source of new arrivals. Amongst these species, Kent is nationally important for: White-bellied Mining Bee, Maidstone Mining Bee, Grey-backed Mining Bee, Shrill Carder Bee, Four-banded Weevil-wasp (also known as Four-banded Digger Wasp), Square-jawed Sharp-tail Bee and Hairy-horned Mining Bee (also known as Fringe-horned Mining Bee).

Ants, bees and wasps in Kent are generally suffering from downward trends. This is particularly true of some of the more specialist species in this group. However, some more generalist species appear to be on the increase and the number of ants, bees and wasps recorded in the county is growing year on year, because of new species colonising from continental Europe or variable species being recognised as multiple cryptic species. There has been a total of six *Aculeate* species lost in the last century in Kent, some of which are also now nationally extinct. However, 17 *Aculeate* species have been added to the county list, with the majority of these being discovered in the last decade.

Habitat loss is the main driver of change for this fauna, whether this is through direct loss of sites to development or inappropriate habitat management. Other important factors affecting their populations include climate change and pesticide use. With a changing climate and more development pressure, it is likely that the general trend will continue to decrease.

Priority species requiring bespoke measures
(see Appendix 3.1 for details of measures)

- Four-banded Weevil-wasp
- Fringe-horned Mason Bee
- Long-spined Ant
- Maidstone Mining Bee
- Moss Carder Bee
- Oak Mining Bee
- Sea Aster Bee
- Shrill Carder Bee
- Shining Guest Ant

Beetle priority species

Almost 68% of Britain's beetles have been recorded in Kent – the known Kent fauna currently comprises 2,758 species in 99 families. Kent is home to many threatened and specialised species however recording of beetles is patchy. Beetles can be found in almost all habitats in Kent, semi-natural habitats hold the richest diversity of species. Kent's beetle fauna is dynamic with new species being found annually. Kent is home to many threatened and specialised species vulnerable to the effects of environmental change and degradation, though recording of beetles is patchy both in space and time, so trends are difficult to determine.

Generalist species seem to be doing well in Kent, however there is no baseline data on their abundance. Specialist species are restricted by the availability of their habitat and are threatened by habitat loss, degradation and fragmentation, though some, at the northern edge of their climate envelope in Kent, may be able to broaden their niche as the climate warms and thrive. Kent's position close to the continent makes it a gateway for new species to arrive either by natural dispersal, or by human assisted migration. The effects of non-native species are rarely studied unless they are potentially economically important pests.

Local Nature Recovery Strategy priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• *Anthicus bimaculatus* • Dune tiger beetle • East Coast Dune-walker • Kentish Clown • *Longitarsus aeruginosus* • Noble Chafer • *Omphalapion beuthini* • *Ophonus puncticollis* • Phoenix Clown • Pride of Kent Rove Beetle • *Pseudeuparius sepicola* • Red-horned Cardinal Click Beetle • Sandwich Click Beetle • *Smicronyx coecus* • Southern Oyster Mushroom Beetle • Spangled Button Beetle

Priority species requiring broad habitat measures	**Relevant Local Nature Recovery Strategy priority**
Black Night-runner	Lowland fens FW7
Haliplus variegatus	Lowland fens FW7

Bird priority species

About 245 bird species have been recorded regularly in Kent during the past 100 years, 150 of them breeding. Kent's location in the south-east makes it well-placed to receive new colonists of Britain, and also to support birds at the limit of their European range. The long coastline and especially the estuaries are vital to huge numbers of wintering and passage birds, most notably waterfowl.

Kent is located on migration routes used by thousands of terrestrial and coastal birds that make annual journeys between their breeding grounds in the northern hemisphere and wintering areas in the south. Almost 430 species of bird have been recorded in Kent, including both residents and migrants, but this total includes some that are rare visitors, occurring only occasionally and in very small numbers.

Kent supports national strongholds of species, whose ranges are contracting towards the south-east, including the rapidly declining Turtle Dove and Nightingale. Being close to the continent, Kent is well placed to receive the first pairs of colonising species that are expanding their range, such as Cetti's Warbler in the 1970s and Black-winged Stilt in the last decade.

Kent's long coastline and the estuaries are vital for large populations of non-breeding waterfowl (taken here to include ducks, geese, swans, waders, herons, cormorants, divers, coots and rails, gulls and terns); the more important species depend on a range of habitats – intertidal mud, freshwater bodies and grassland – and include, for example, Brent Goose, Shoveler, Black-tailed Godwit and Dunlin

The most important habitats at a national and international scale are coastal ones (shallow offshore waters, estuaries, and grazing marsh), which support important populations of wintering and some breeding birds. Also noteworthy are the large areas of woodlands and the many artificial and natural wetlands; however, all land use types, including farmland and built development, have their distinctive features for birds.

Over the past century, bird species' fortunes seem to have been fairly evenly matched. Broadly speaking, the numbers of increases are similar or a little greater than the numbers of decreases, but this masks a good deal of complexity within the lists of species involved, and this comparison does need to be qualified for several reasons. Firstly, measuring change simply by the number of species increasing or decreasing ignores changes in abundance. Evidence at national level is that, for the past 50 years, many species groups, most notably specialist farmland and woodland breeding birds, have been declining in abundance. Even those groups, such as wintering waterfowl, that had been increasing in abundance are now showing declines.

Secondly, there is a strong possibility that the qualitative descriptions of species' abundance on which have been relied until around 1970, are insufficiently precise to infer actual changes and the imprecision of status descriptions may well have obscured many real changes. Thirdly, some species – perhaps many – have not simply increased or decreased over the century. At some times, populations have declined and at others they have recovered. Such ups and downs have occurred

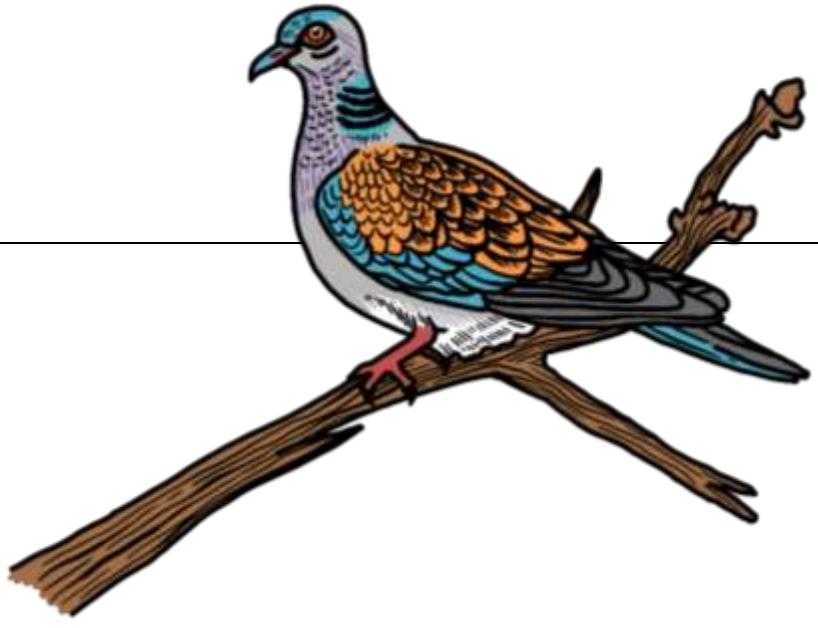
over the long-term or even within short periods. Such a pattern of changes makes judging the overall trend difficult.

These limitations should be considered while observing that, up to the 1970s, most species seemed to undergo little change and increases outweighed decreases. From this point on, with better evidence, an increased number of changes are apparent, but the balance is still towards more species showing a population increase. In the most recent period, since 2010, that situation has reversed, and decreases exceed increases. Taking abundance changes into account, as well as species richness, the current picture is one of substantial and worrying loss of bird biodiversity. There is strong evidence of declines for specialist farmland and woodland birds and, recently, declines have started to affect groups such as wintering waterfowl, that formerly were increasing.

Land use and habitat change has been the primary driver of changes in bird numbers, now exacerbated by climate change, though altering levels of disturbance and persecution, and introductions of non-native species, have played their part. For migrant birds, similar effects on migration routes or on breeding or wintering grounds also are influential.

Priority species requiring bespoke measures
(see Appendix 3.1 for details of measures)

- Bittern
- Brent Goose
- Common Tern
- House Martin
- Lapwing
- Little Tern
- Nightingale
- Nightjar
- Redshank
- Ringed plover
- Sand Martin
- Sandwich Tern
- Swift
- Tree Sparrow
- Turtle Dove
- Wheatear



Priority species requiring broad habitat measures	**Relevant Local Nature Recovery Strategy priority**
Barn Owl	Lowland meadows GL3 Arable field margins GL5 & LM1 Wood pasture and parkland WTH1
Bearded Tit	Reedbeds FW8
Corn Bunting	Coastal and floodplain grazing marsh GL2 Arable field margins GL5 & LM1
Grasshopper Warbler	Acid grassland and heathland GL4 Scrub SH2 Hedgerow WTH8 Lowland mire sites (fen and valley mires) FW7
Grey Wagtail	Rivers FW1
Kingfisher	Rivers FW1 Standing waters FW6
Lesser Spotted Woodpecker	Lowland mixed deciduous woodland WTH1 Ancient Woodland WTH5 Wet woodland WTH6 Traditional orchards WTH9
Linnet	Lowland heathland GL4 Arable field margins GL5 & LM1 Scrub SH2 Hedgerow WTH8
Marsh Harrier	Coastal & floodplain grazing marsh GL2 Arable field margins GL5 Reedbeds FW8
Marsh Tit	Lowland mixed deciduous woodland WTH1 Ancient Woodland WTH5
Oyster Catcher	Coastal & floodplain grazing marsh GL2 Coast CL1 Vegetated shingle CL7
Pochard	Coastal & floodplain grazing marsh GL2 Lowland mire sites (fen and valley mires) FW7 Saline lagoons CL6 Ponds and lakes FW6
Shoveler	Coastal & floodplain grazing marsh GL2Ponds and lakes FW6 Lowland mire sites (fen and valley mires) FW7 Saltmarsh and mudflats CL2 Saline lagoons CL6
Waders and wildfowl	Coastal and floodplain grazing marsh GL2 Intertidal mudflats CL2 Saline lagoon CL6
Yellowhammer	Lowland heathland GL4 Arable field margins GL5 & LM1 Scrub SH2 Hedgerow WTH8
Yellow Wagtail	Coastal and floodplain grazing marsh GL2 Arable field margins GL5 & LM1

Butterfly priority species

Kent has 42 of Britain's 59 resident species of butterfly. The last decade has seen an improvement in the fortunes for several species of butterfly in Kent. The nationally scarce species Heath Fritillary and Duke of Burgundy have increased in number and extended their range slightly. Several other species, including Adonis Blue, have also expanded their range although the spread of Silver-spotted Skipper has slowed. Brown Hairstreak, which hadn't been seen in Kent since 1971, was recorded again in 2016, and is slowly expanding its range in Kent, colonising from Surrey. However, one of our native species, the Grayling, is on the brink of extinction in the county, with a sighting in 2020 the first for seven years.

A number of the county's species include regular migrants from continental Europe, such as Painted Lady and Clouded Yellow, that breed here most years. In addition to the 42 resident species there are rarer migrants, such as the continental form of Swallowtail, Large Tortoiseshell, Scarce (yellow-legged) Tortoiseshell, Camberwell Beauty and Queen of Spain Fritillary. The Long-tailed Blue has reached Kent on several occasions since 2013 and has produced another generation, though this has not survived the winter.

Although records paint a favourable picture for butterfly populations, it is not entirely representative, as many colonies of our more common butterflies have been, and continue to be, lost to an increase in the built environment. The short grassland of the North Downs is a key butterfly habitat, especially for Adonis and Chalk Hill Blues, but a lack of management to maintain these grasslands as suitable habitat poses a threat to these species. Lack of management is also an issue in the county's woodlands, with a reduction in coppicing meaning most woods are unsuitable for many butterflies.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Adonis Blue • Brown Hairstreak • Chalk Hill Blue • Dark Green Fritillary • Dingy Skipper • Duke of Burgundy • Grizzled Skipper • Heath Fritillary • Silver-spotted Skipper • Small Blue • Wall • White Admiral • White-letter Hairstreak

Caddisfly priority species

Caddisfly, also known as Sedge Flies, can be found in all types of wetlands and are often found in large numbers near water bodies. Adults are moth-like insects with hairy wings. They are an important food source for freshwater species including the Brown Trout and Atlantic Salmon, birds and bats.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
Tinodes pallidulus

Crustacean priority species

The UK has only one native freshwater crayfish – the White-clawed Crayfish, a bronze-coloured crustacean with pale undersides to its claws, hence the name. It is an omnivorous crustacean, which eats invertebrates, carrion, water plants and dead organic matter. It inhabits small freshwater streams of a depth less than 1 metre, hiding underneath stones and rocks and in small crevices where they forage for food. The species is in decline due to the introduction of the non-native North American Signal crayfish, which has brought disease that our indigenous crayfish has no natural resistance to.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
White-clawed Crayfish

Dragonfly and Damselfly priority species

When it comes to dragonflies, Kent is one of the most species-rich counties in the UK; the county currently hosts 36 species of Odonata that are classified as resident or regular migrants. Of these, one, the Norfolk Hawker *Aeshna isoceles*, is listed as legally protected under the Wildlife and Countryside Act (1981) and five are listed in the Red Data List for Great Britain (2008).

The abundance and diversity of wetlands in Kent is a significant factor influencing the abundance and diversity of dragonflies. Kent's large swathes of grazing marshes form a rich mosaic of pools and ditches that support some of the country's rarest species, including the UK's only Dainty Damselfly populations

In the case of many dragonfly species, maintaining an accurate profile of their status and trend history poses a significant challenge. Over the past 100 years, Kent has gained eight new species through natural colonisation. There is no evidence to suggest that any of these new arrivals have had a negative impact on the wetland communities of the sites they have colonised; consequently, none are classed as 'invasive'.

Climate change is causing rapid changes in species distribution and the county is likely to become home to more new colonists soon. Climate change also threatens several of Kent's resident species, those that occupy low lying flood plains and coastal marshes, which are at risk from sea level rise, as well as peat bogs and shallow streams/ pools, which are at risk from desiccation because of rising summer temperatures and increasing droughts. The future of these species-rich habitats is uncertain, as sea level rise is predicted to threaten many of these coastal and flood plain wetlands. In addition, changes in rainfall patterns, another result of climate change, are threatening some of Kent's rarest wetland habitats, in particular lowland bogs, and their associated peatland specialist dragonflies.

Changes in land use and land use practices, such as urban development and the intensification of agricultural practices, historically have been, and continue to be, a key driver of species trends through the destruction, fragmentation, and degradation of habitat.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
Brilliant Emerald Dragonfly

Fish priority species

Kent has a variety of freshwater fish species, including both native and introduced species. Common fish include Brown Trout, Rainbow Trout, Gudgeon, Minnow, and Tench. Our waters are also home to the European Eel, a very long, narrow fish that can grow to over a metre in length. They can be found in rivers and ditches across the county. Once widespread, they are now one of the most endangered species in the UK and have seen a 95% population declines in the last 40 years. Similar looking to the Eel, are the River Lamprey and Sea Lamprey, which are widespread in Kent and Medway but nevertheless, rare. They similarly migrate to breed but whereas the European Eel moves from freshwater to the sea, the River Lamprey lives in the sea and returns to freshwater to spawn.

It is because of these movements, so critical to the lifecycles of many freshwater species, that the construction of dams and other man-made structures in our rivers pose such an issue, creating barriers to their movement. Habitat loss and degradation, and in particular water quality, are also threats to our freshwater species.

Kent's marine waters are home to a diverse array of fish species, including Bass, Mullet, and various flatfish like Plaice and Sole. There are various skate and ray species, including the Thornback Ray and Common Skate. In the intertidal areas, rockpool fish such as the Tompot Blenny, Butterfish and Rock Goby are commonly found. Both of the two seahorse species found in UK seas are present in our coastal waters – the Spiny Seahorse (or Long-snouted Seahorse) and the Short-snouted Seahorse – and are found in shallow waters, often in estuaries or associated with seagrass meadows.

Threats to our marine fish include the overexploitation of fish stocks, pollution from sewage discharge, oil spills and nutrient and physical disturbance from dredging, mobile fishing gear, boat anchoring and coastal development.

Priority species requiring broad habitat measures	**Relevant LNRS priority**
European Eel	Coastal & floodplain grazing marsh GL2 Rivers FW1 Standing water FW6 Lowland mire sites FW7 Freshwater wetlands FW9 Ditch networks of marshes and lakes FW10
River Lamprey	Rivers FW1
Sea Lamprey	Rivers FW1
Smelt	Rivers FW1
Short-snouted Seahorse	Seagrass CL3
Spiny Seahorse	Seagrass CL3

Fungi priority species

Kent has a rich assemblage of fungi with 859 species known in the database held by Kent & Medway Biological Record Centre (KMBRC). Four Kentish species are protected by the Wildlife and Countryside Act 1981, and a further eight Boletes are on the UK Red Data List. In addition, there are 43 species on the Red Data List for Kent. Many common species are widespread across the county, with the rare or endangered species restricted to the county's unimproved chalk grasslands, meadows, ancient woodlands, traditional orchards, parkland with veteran trees, churchyards, and sand dunes.

The vast number of species, relative paucity of recording effort for fungi, and lack of structured, methodological survey schemes mean that assessing trends in the abundance of fungi is highly challenging and therefore not possible to summarise anything meaningful for the Local Nature Recovery Strategy. There have been some newly recorded and interesting species of fungi discovered in Kent in the past ten years.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Marram Oyster fungus • Orchard Tooth • Pink Waxcap • Purple Webcap • Sweet Webcap

Grasshoppers, crickets and allied priority species

There are 25 species of bush-cricket, cricket, grasshopper, and groundhopper which are regularly recorded in Kent and Medway, around 5 species of cockroach found outdoors and 4 species of earwig. A number of species are rare or scarce nationally.

Climate change has resulted not only in the spread of previously restricted species, but has led to the arrival and establishment of a number of new species from the near continent over recent years. Changes in habitat management have led to declines in the distribution of several species.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Rufous Grasshopper • Wart-biter Bush Cricket

Lichen priority species

There are a diverse range of lichen species in the UK which can be seen in a variety of habitats – rocks, walls, twigs, bark and exposed soil surfaces. Some species are able to occupy a wide range of habitats, others require very precise conditions of humidity, shade, substrate or nutrient-enrichment. Lichens are non-parasitic and don't harm any plants they grow on. In fact, they're useful to other wildlife, offering nesting material for birds, and food and shelter to lots of invertebrates - which in turn feed other creatures. Woods rich in lichens support more wildlife than any other.

Lichens are incredibly sensitive to pollution and can highlight the quality of the surrounding air. Crusty lichens are hardier to pollution, whereas the more delicate beard-like ones are mostly found in cleaner locations and are rarer.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• *Enterographa elaborata* • *Cladonia mitis*

Mammal priority species

Twenty-nine terrestrial mammal species are found in Kent. Eight mammal species in Kent are of major conservation concern; these are the IUCN Red Listed: Water Vole, Hedgehog, Hazel Dormouse, Harvest Mouse, Otter, Polecat and Eurasian Beaver, which is a critically endangered mammal. Terrestrial mammals occupy all identified Kent priority key habitats and occupy a range of niches. The Hazel Dormouse stronghold is predominantly the woodlands, hedgerows and scrub areas of Kent and other southern counties. The Beaver, Otter and Water Vole all require sympathetic freshwater habitats. Hedgerows are an important priority habitat for many other mammal species including Harvest Mouse and Hedgehog.

The Red Squirrel was lost from Kent in the 1950s, along with the Otter. The Otter has returned in small numbers, whilst the Grey Squirrel (introduced more than 100 years ago) has supplanted the Red Squirrel. The Polecat and Wild Boar have also returned to Kent in recent years. Official and unofficial reintroductions of Eurasian Beaver have seen the return of this species to East Kent. Trends over time indicate that Hedgehog, Water Vole, Hazel Dormouse and Brown Hare populations are all declining. The most recent State of Britain's Hedgehogs (2022) report estimated Hedgehogs in rural areas have declined by a half, and in urban areas by a third since 2000; there is no reason to suggest that the national decline is any different in Kent. The Water Vole has suffered a catastrophic reduction in population, as a result of loss/degradation of habitat and predation by the non-native American Mink.

Kent has a rich fauna of bats with 17 of the UK's breeding species recorded in the last 10 years. The importance of Kent coastal waterbodies to migrating Nathusius' Pipistrelles has become apparent by trapping. Two of this species trapped in East Kent had been ringed in Lithuania. The loss and 'improvement' of grazed grasslands are of particular concern. Native woodland is over managed with excessive coppicing in much of Kent, to the detriment of the less common woodland bats.

Populations of most species have much reduced in recent decades. Three species of bat new to Kent have been recorded in the last 10-year period – Kuhl's Pipistrelle, Lesser Horseshoe and Greater Horseshoe. It is significant that both Horseshoe species were recorded in an area of restored grassland habitat. There have been several records of Kuhl's Pipistrelle, as elsewhere in the UK – there is a suggestion its presence may be linked to climate change. The status of the three species in Kent is currently unknown.

Local Nature Recovery Strategy priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Beaver • Bechstein's Bat • Brown Long-eared Bat • Leisler's Bat • Noctule Bat • Serotine Bat

Priority species requiring broad habitat measures	Relevant Local Nature Recovery Strategy priority
Brown Hare	Chalk grassland GL1 Coastal and floodplain grazing marsh GL2 Lowland meadows GL3 Arable field margins GL5 & LM1 Open mosaic habitats on previously developed land (brownfield) SH1 Traditional orchards WTH9 Vegetated shingle CL7
European Water Vole	Coastal and floodplain grazing marsh GL2 Rivers and streams FW1 Ponds and lakes FW6 Lowland mire sites (fen and valley mires) FW7 Reedbeds FW8
Hazel Dormouse	Open mosaic habitats on previously developed land (brownfield) SH1 Scrub SH2 Woodland WTH1 Ancient Woodland WTH5 Hedgerow WTH8 Urban URB1
West European Hedgehog	Lowland meadows GL3 Arable field margins GL5 & LM1 Open mosaic habitats on previously developed land (brownfield) SH1 Scrub SH2 Hedgerow WTH8 Urban URB1

Millipede priority species

Millipedes are a common invertebrate found in various habitats like gardens, woodlands, and under rocks, feeding on decaying vegetation and playing a role in nutrient recycling. There are around 62 millipede species in the UK.

Increased development pressures and agricultural/land-use changes threaten undisturbed soils that could potentially support some of our rarer and endangered millipedes.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Boring Millipede • Kentish Snake Millipede

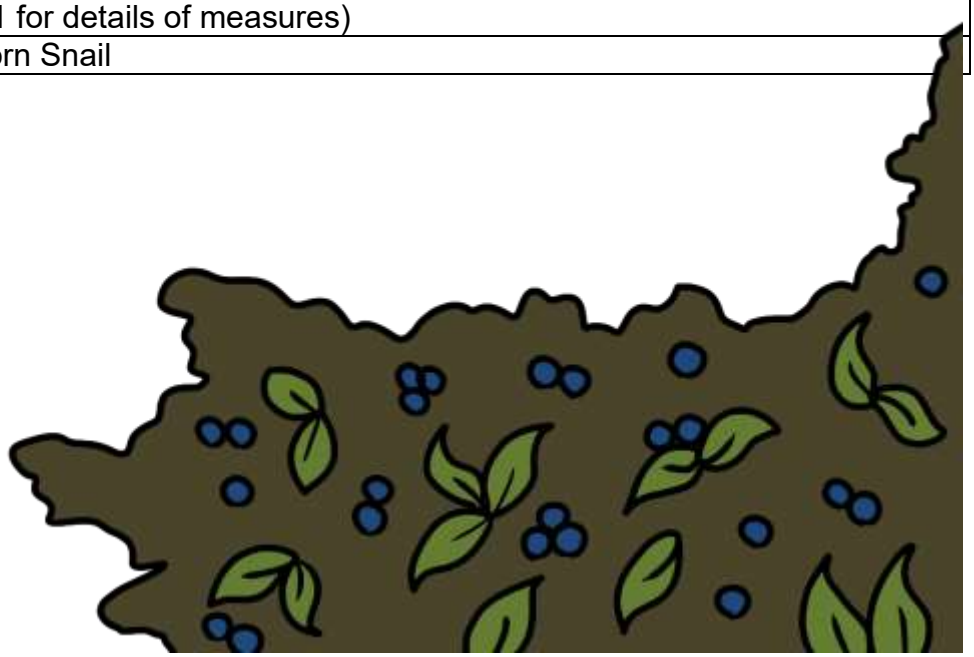
Mollusc priority species

Molluscs are a varied group of species, ranging from the cephalopods of octopus, squid and cuttlefish, to the gastropods of slugs, snails and limpets. Molluscs are found in terrestrial, freshwater and marine environments.

This group of species includes the Native Oyster. As a result of overharvesting, disease, pollution, habitat loss, and invasive species, this once common species has seen a 95% decline and has just a few strongholds – one of them being in the Thames estuary, off the Kent coast.

Along with Blue Mussels, a more commonly found marine mollusc, the Native Oyster is prioritised by the Kent and Medway Local Nature Recovery Strategy under the coastal ambition, owing to their habitat building potential.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
Shining Ram's-horn Snail



Moth priority species

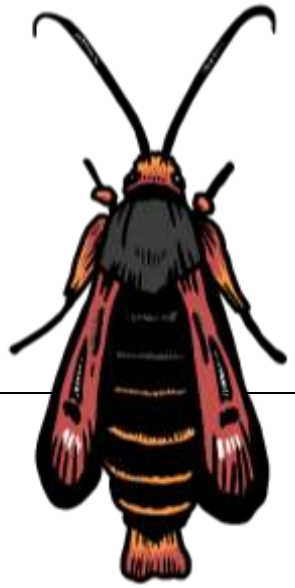
All key habitats in Kent hold at least one population of nationally important macro or micro moth species. Approximately 750 species of macro moth have been recorded in Kent, which includes some very scarce migrants and some now believed to be extinct, representing about 80% of the UK macro moth species. New species continue to be recorded every year in Kent. Kent has important populations of a number of rare moth species, including Straw Belle and Black-veined Moth on the Kent Downs, the principally coastal species Bright Wave and Fiery Clearwing, and Fisher's Estuarine Moth around the Thames Estuary.

Kent is currently home to somewhere between 1,300 and 1,400 species of micro moth, the list being in constant flux. The positive news is that many species have been added to this list in the last few years, some of which also represent the first record for the UK.

Trends in Kent for all moths show a mixed picture over the last 10 years, but it appears that more species show an increase than a decrease. There are an increasing number of species establishing breeding populations in Kent. It appears that climate change is now the main driver of change for populations of Kent moths. Other factors include land use (including the use of chemicals and eutrophication) and artificial light at night.

Priority species requiring bespoke measures
(see Appendix 3.1 for details of measures)

- Aspen Knot-horn
- Barred Tooth-striped
- Black-veined Moth
- Daisy Case-bearer
- Drab Looper
- Fisher's Estuarine Moth
- Forester
- Lappet
- Liquorice Piercer
- Marsh Mallow Moth
- Milkwort Beauty
- Scabious Leaf-miner
- Scarce Goldenrod Plume
- Straw Belle
- Sussex Emerald
- White-spotted Sable



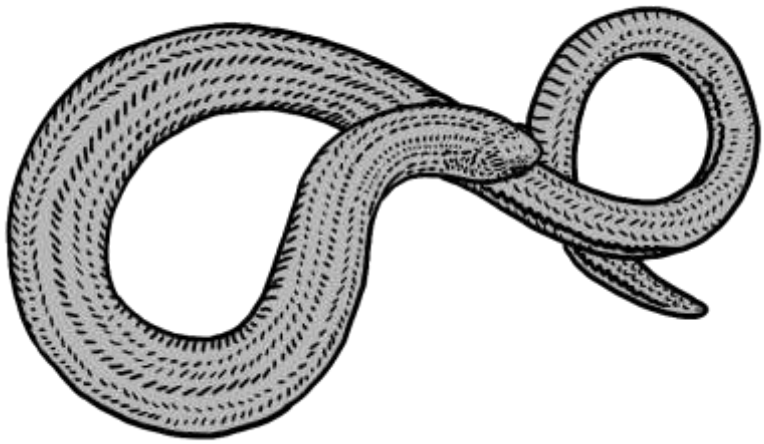
Reptile priority species

Kent's native reptile fauna includes two snakes, the Grass Snake and Adder, and two lizards, the Viviparous (or Common) Lizard, and the Slow Worm. Sand lizards were reintroduced to a dune system in East Kent in 2004-06, following extinction in the late 1960s – the species is actively monitored and was observed in 2025. Non-native species include the Wall Lizard, which has breeding populations at several locations in Kent. Terrapins have also been found in various water bodies, but without evidence of reproduction.

Kent's reptiles use a range of habitats, of which chalk grassland and its associated low scrub is particularly important. While areas of chalk grassland are often wildlife reserves, reptile populations may still be threatened by unsympathetic management. Brownfield sites are important but sometimes overlooked as reptile habitats.

Expert opinion suggests that all four native species are in decline, although all have partial protection under the Wildlife and Countryside Act (1981). Of most concern is the Adder, which is thought to be in urgent need of new conservation efforts. Habitat loss and fragmentation are currently the most significant drivers of change; however, the first evidence of the negative impacts of climate change – especially for Adders and possibly also Slow Worms – is beginning to emerge.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
Adder



Spider priority species

Kent has a rich spider fauna with 473 species representing almost 71% of the 670 recorded from the British Isles. In total, 22 spider species that occur in Kent are listed as threatened with extinction in Britain, with a further 11 listed as Near Threatened (NT). Among these 33 species there are six for which all UK records are from Kent while a seventh, *Clubiona pseudoneglecta*, is only known from the Scilly Isles and Kent.

Hot spots for these species are to be found in Kent's chalk grasslands, ancient woodlands, and coastal habitats. The county's warm climate, together with the mix and variety of habitats, are the likely major drivers of species richness, but proximity to continental Europe is also important. Kent is in the front line for spider species colonising both naturally by aerial dispersal – so-called "ballooning" – and as hitchhikers in freight and luggage.

Of 12 species newly recorded in Kent in the last decade most are non-native and relatively new to Britain; half of these are likely to have colonised via the Thames corridor. Historically, the destruction of most of the county's extensive tracts of heathland and lowland meadows through agricultural intensification and urbanisation is likely to have caused the loss of many specialist spider species dependent on these habitats. The semi natural habitats for which the county is best known – ancient woodland, chalk downland and coastal sand dunes, shingle, and mud flats – are now hot spots for species richness and species of conservation concern. Among many drivers of population change, pressures on coastal habitats from development, tourism and the impacts of climate change are likely to cause most losses from the county's spider fauna in the next decade and should be a focus for conservation action.

Although numbers of non-native species are increasing, with evidence that the Thames Gateway is an important route of entry, no evidence is available on their impacts on native species. Our ability to detect trends in spider populations is restricted by a lack of systematic recording but increasing interest in this challenging and important group will facilitate the implementation of new recording methodologies that are urgently needed to inform more effective spider conservation.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Distinguished Jumping Spider • Sand Running Spider

Priority species requiring broad habitat measures	**Relevant Local Nature Recovery Strategy priority**
Duffey's Bell-head Spider	Saltmarsh CL2
Yellow-striped Bear-spider	Saltmarsh CL2

True Bug priority species

True bugs are one of the major groups of insects found in the UK, comprising nearly 2000 species and include Shieldbugs, Froghoppers (spittle bugs), Pond Skaters and Aphids.

True bugs face the same threats as other insects, including habitat loss and pesticide use. Climate change, and resulting altered temperature and weather patterns, is another threat, disrupting breeding cycles, affecting the availability of food sources and potentially favouring invasive species.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Greater Streaked Shieldbug • *Prostemma guttula*

Vascular Plant priority species

As a reflection of its enormously varied topography and geology, more than 2,500 species, subspecies and hybrids of vascular plants have been recorded growing wild in Kent. Of these around 950 are native and the remainder are introductions by man, either deliberate or accidental. In Kent we have responsibility for 194 plants with Red List status, six of which are Critically Endangered, 33 are Endangered and 77 are Vulnerable. The remainder are listed as Near Threatened. The county's Rare Plants Register currently lists 333 species - all threatened and near threatened plants are included along with nationally rare or nationally scarce plants such as Wild Cabbage *Brassica oleracea var. oleracea* and Coralroot *Cardamine bulbifera*, both of which have significant Kent populations.

The Kent flora is better documented now than ever before and recording our flora is a way of identifying those plants most in need of assistance. In the last 10 years, four native species have been added and 14, previously thought to have been lost, have been re-found. Some coastal plants have continued to increase their range but there have been declines elsewhere. Species including threatened orchids, thought 10 years ago to have been suffering serious declines, have been found to be faring much better than was feared.

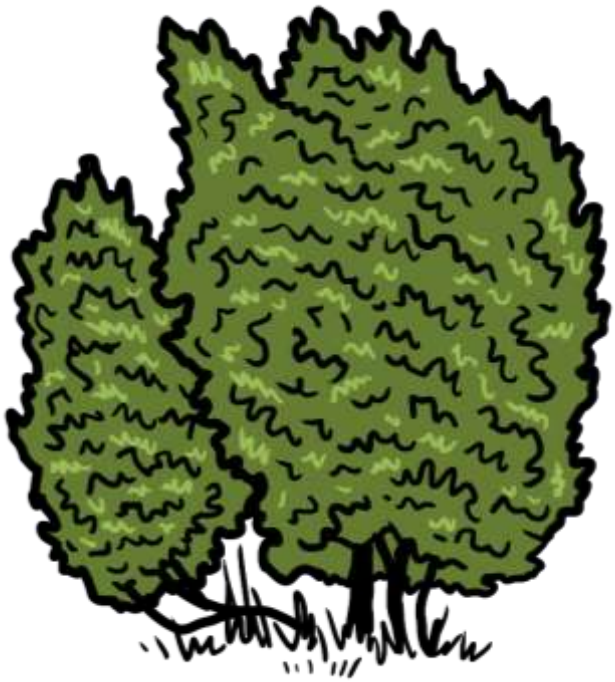
A few non-native species from warmer climates have reached Kent and colonised motorways and other roads. Plants of nutrient-poor soils, grasslands, wetland habitats and waterbodies have suffered the largest population decreases.

The last 10 years have seen great advances in habitat improvement for wild plants on Kent's nature reserves and elsewhere in the county. Kent Wildlife Trust have established pioneering evidence-based information to inform management decisions and provide better outcomes for plants on its reserves and in the wider countryside. Many farmers and landowners have successfully taken part in voluntary schemes targeted at encouraging uncommon arable weeds and grassland plant communities, whilst landscape scale partnerships such as the Upper Beult Farming Cluster, involving farmers, landowners and water authorities, can be expected to benefit aquatic and meadowland plants in the Low Weald by improving water quality and habitats.

However, wildflowers continue to decline and particularly those which grow on nutrient-poor grasslands and those associated with water bodies and wet habitats. Insufficient grazing, scrub invasion and nutrient enrichment together alter soil composition and reduce the number of wildflowers that can survive in grasslands. Nitrogen-hungry broad-leaved grasses and herbs out-compete delicate grassland plants for space so that no bare ground remains for annual species to germinate. For plants of ponds, rivers and ditches, water extraction and lack of management causes water bodies to dry up, whilst poor water quality affects the survival of species that grow submerged in the water. Without help, some of our grassland and wetland species are at risk of disappearing, and more needs to be done to persuade land managers to implement appropriate measures for their long-term conservation.

Priority species requiring bespoke measures (see Appendix 3.1 for details of measures)
• Bedstraw Broomrape • Borrer's Saltmarsh-grass • Bur Medick • Dwarf Milkwort • Frogbit • Greater Water-parsnip • Green-winged Orchid • Ground-pine • Heath Dog-violet • Juniper • Lady Orchid • Least Lettuce • Lizard Orchid • Musk Orchid • Ox-tongue Broomrape • Slender Hare's-ear

Priority species requiring broad habitat measures	**Relevant Local Nature Recovery Strategy priority**
Opposite-leaved Pondweed	Chalk rivers FW1 Lowland mire sites (fen and valley mires) FW7
True Fox-sedge	Rivers and streams FW1 Ponds and lakes FW6



Part 4

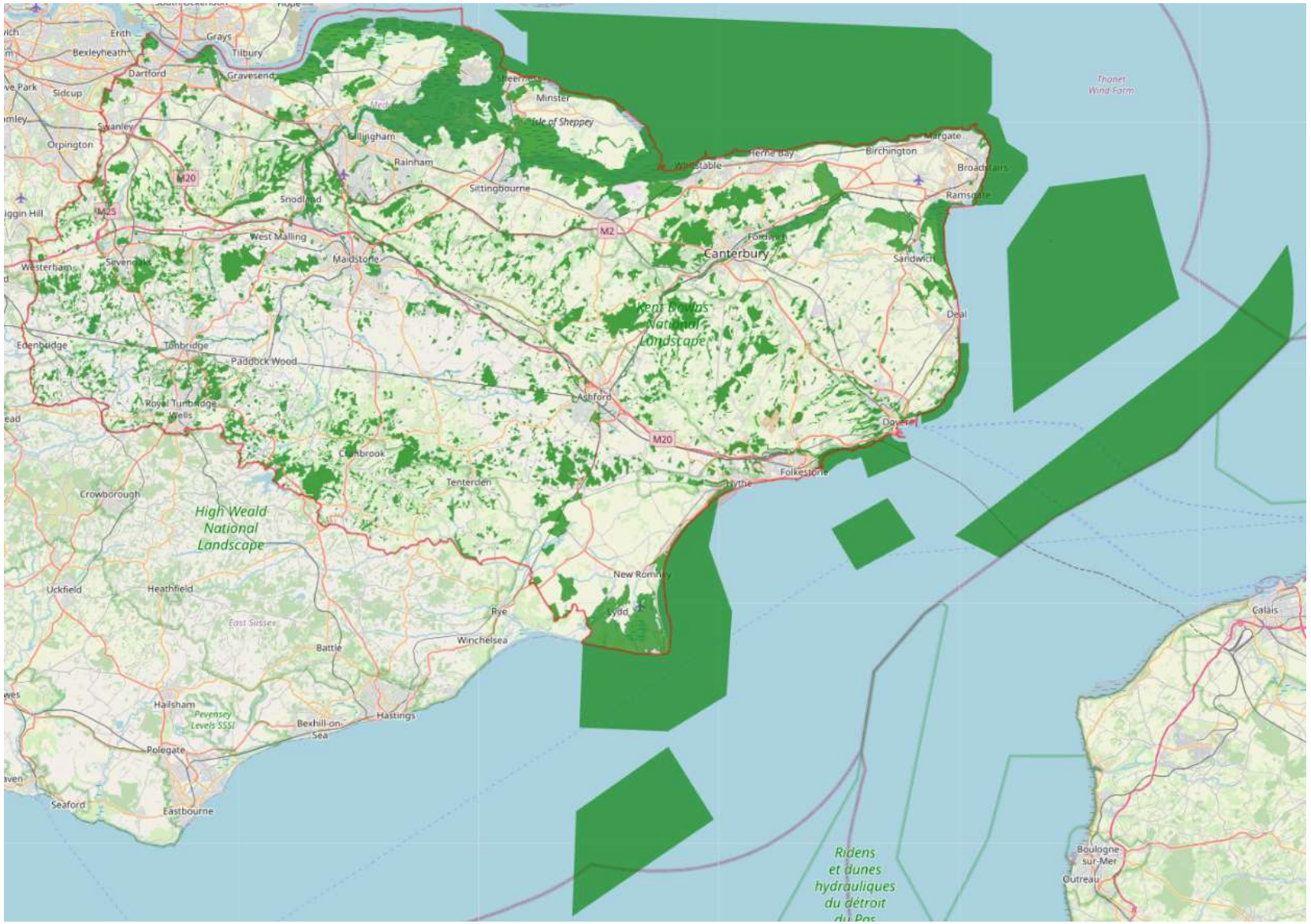
Local Habitat Map

Kent and Medway Local Habitat Map

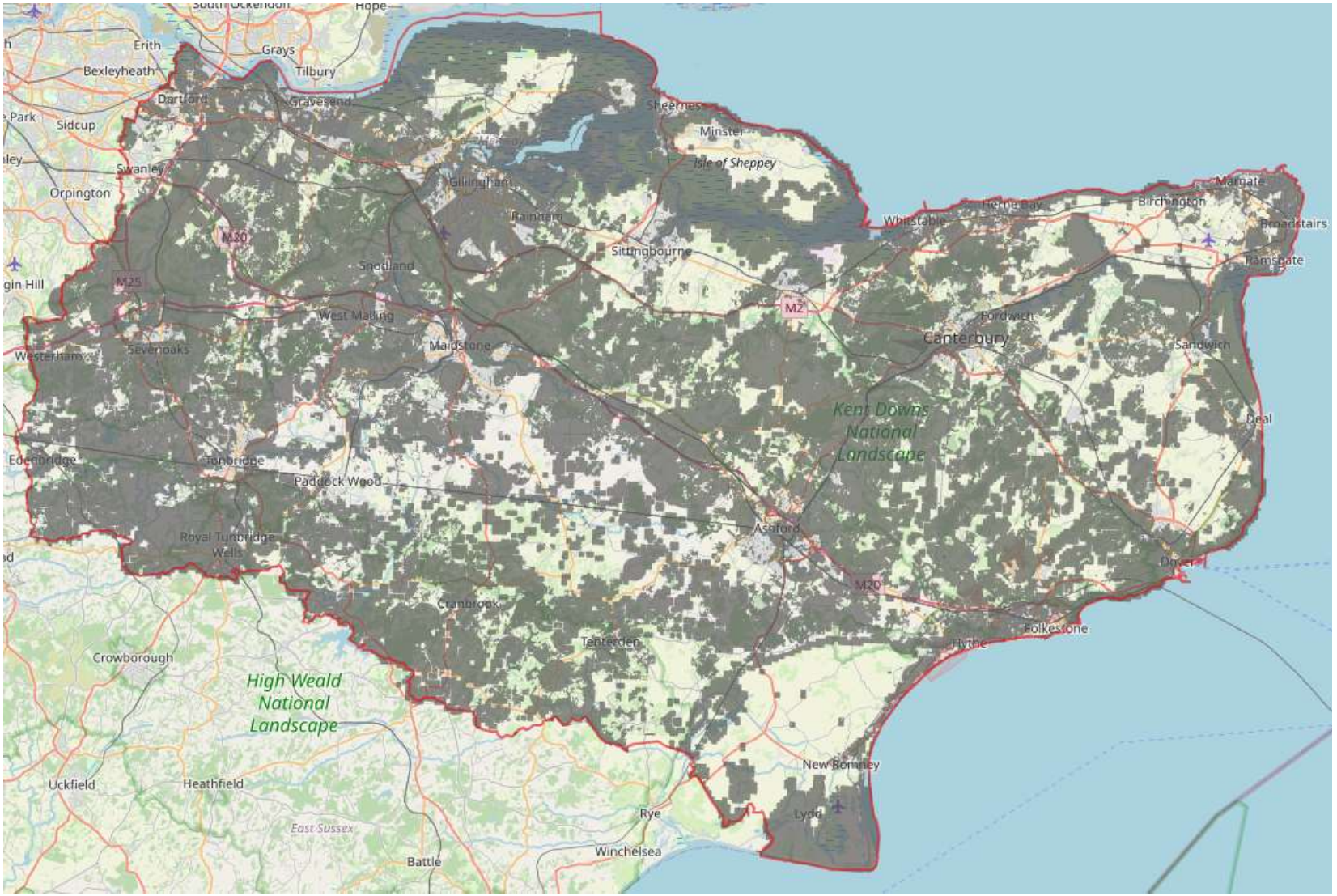
The **Local Habitat Map** is a map of the Strategy area that provides a clear visual way for groups and individuals to understand the Areas which are, or Could become, of Particular Importance for Biodiversity and the environment to target nature recovery action. The mapped parts include:

- Location and extent of areas identified as of particular importance for biodiversity.
- Locations where potential measures have been proposed.
- Location and extent of areas identified that could become of particular importance for biodiversity.

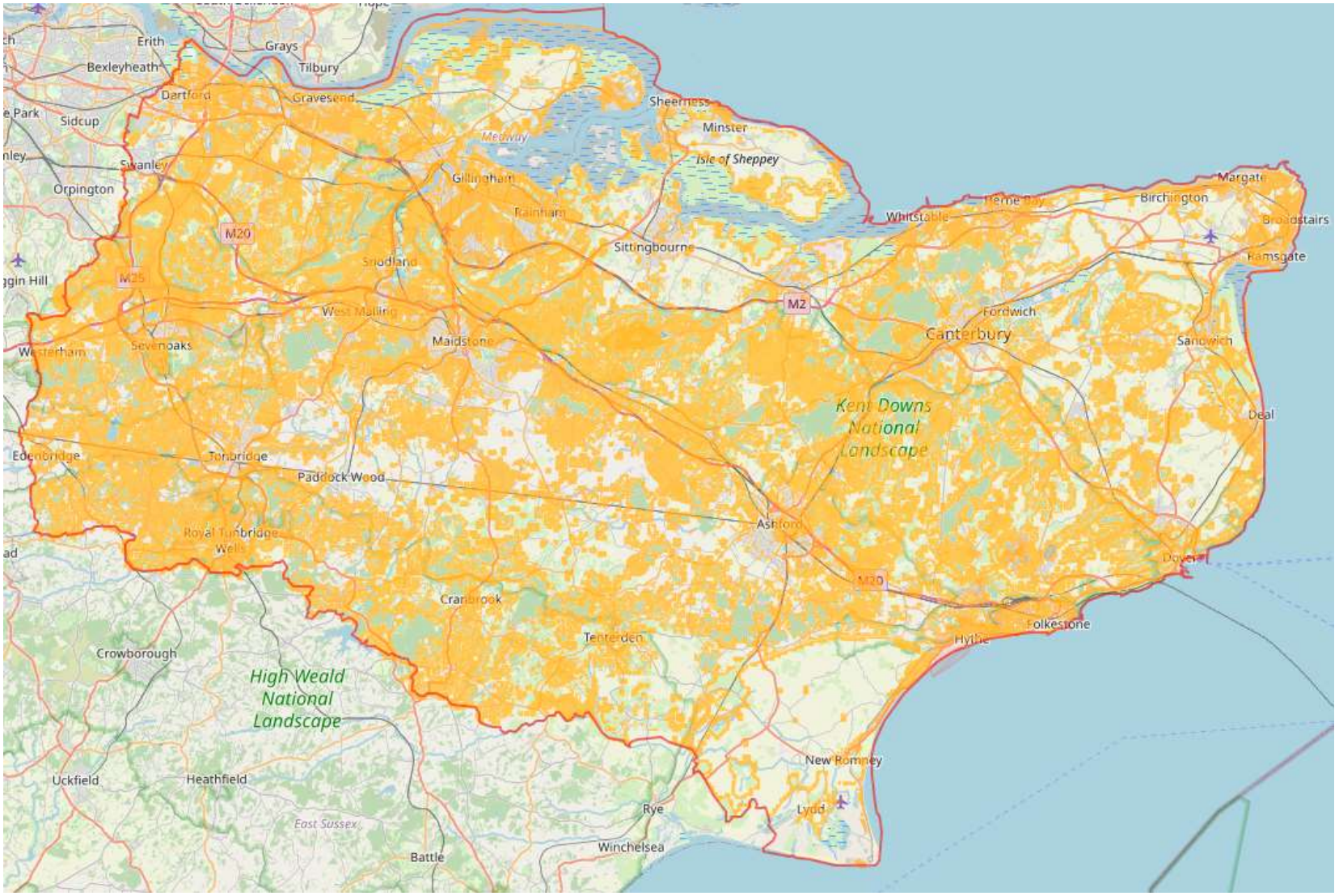
All maps can be viewed in detail, online at LNRS Measures Webmap



Location and extent of Areas identified as of Particular Importance for Biodiversity.

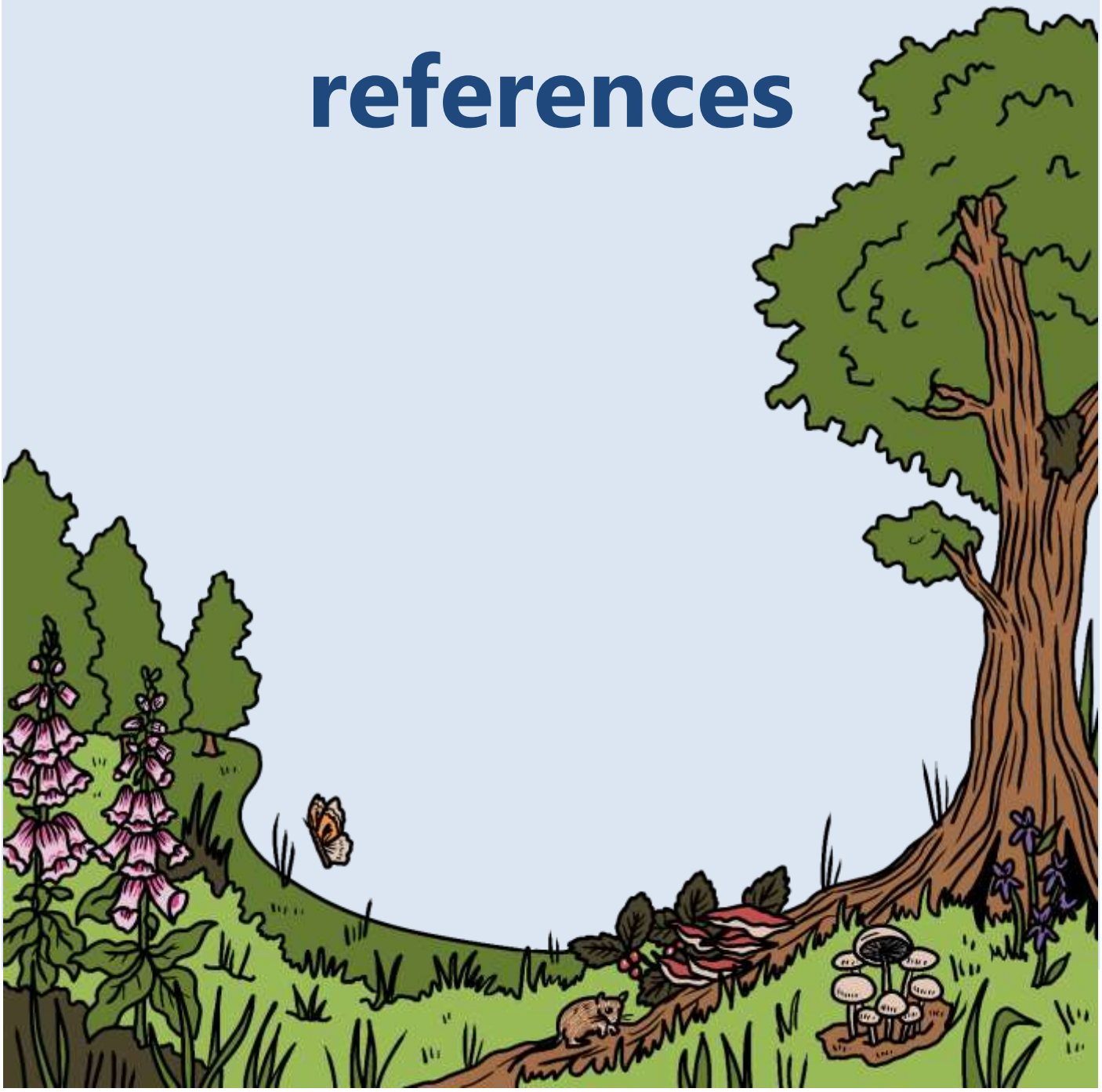


Locations where potential measures have been proposed.



Location and extent of Areas identified that Could become of particular Importance for Biodiversity.

Glossary and references



Glossary

Acid grassland	Habitat characterized by grass-dominated vegetation found on nutrient-poor, free-draining acidic soils, often derived from rocks like sandstones and gravels
Active management	Human intervention to maintain or restore habitats and ecosystems to a desired condition. This approach is particularly relevant in areas that have been degraded or where natural processes no longer maintain desired ecological conditions.
Adaptation (climate change)	An approach to climate change that involves making adjustments to systems, infrastructure, and behaviours to prepare for and cope with the unavoidable impacts of climate change, rather than addressing the root causes. This process builds resilience by adapting to both gradual changes and extreme events.
Agroforestry	Integrates trees and shrubs into crop and animal farming systems to create more diverse, productive, and resilient land management systems. This practice enhances farm outputs by improving soil health, providing shelter from extreme weather, and creating new income streams from timber, fruit, and nuts.
Ancient tree	Defined as those that are in the third and final stage of their lives. They typically have a small canopy and a wide trunk with hollows. There is no set age for a tree to be considered ancient, as different species age at different rates.
Ancient woodland	A wooded area that has been continuously wooded since at least 1600 AD in England and Wales (1750 in Scotland and 1830 in Northern Ireland). These sites have developed irreplaceable and complex ecosystems, with unique habitats and specialist plant, fungi, and invertebrate communities that have developed over centuries. They are divided into two categories: ancient semi-natural woodland (native trees and shrubs) and Plantations on Ancient Woodland Sites (PAWS) (where ancient features are retained after replanting).
Arable wild plants	Wildflowers that depend on regularly cultivated land, such as fields for growing crops, to complete their life cycles. These plants, including species like poppies, cornflowers, and corn buttercups, rely on annual disturbance of the soil for germination and growth.
Areas of particular importance for biodiversity (APIB)	The Strategy area's national conservation sites, local nature reserves, local wildlife sites and irreplaceable habitat. The areas eligible for inclusion in this map is tightly defined by the LNRS regulations.
Areas that Could become of particular Importance for Biodiversity (ACIB)	The extent of the mapped potential measures, with areas of particular importance for biodiversity excluded. These are the areas where the Strategy proposes effort should be concentrated to restore habitat, to achieve the greatest gains for nature and derive the greatest benefits from a healthy, functioning environment. They are the areas of Kent and Medway where targeted action will enable us to deliver on the priorities laid out by the Strategy.
Better	Improving the quality of our existing habitats and ensuring they are in a healthy and functioning state, by applying and resourcing better and appropriate management.
Bigger	Increasing the size of the habitat, not only extending but buffering, to protect them from the pressures of human

	influences.
Biodiversity Net Gain (BNG)	Biodiversity net gain is a mandatory requirement that aims to make sure that development has a measurably positive impact on biodiversity. This “gain” is calculated through the use of a standardised metric, which identifies the biodiversity value of the land lost and the biodiversity gained.
Blue carbon store	Carbon captured and stored by marine and coastal ecosystems, such as seagrass, saltmarshes, and mangroves, as well as seafloor sediments. These ecosystems lock away carbon for long periods, performing a vital role in the global carbon cycle and mitigating climate change.
Blue mussel beds	Dense mussels beds that cover the seabed and create a habitat.
Bottom fishing	Trawling the seabed with towed nets to catch fish and other marine species living on or close to the seabed.
Breeding ground	An area where birds, fish, or other animals habitually breed.
Brownfield	Previously developed land, which is abandoned or underused. These brownfield sites are typically made up of a mix of bare ground, short grassland, patches of weedy tall herbs, longer flower-rich grassland, scrub and temporary pools. Brownfield habitats have experienced periodic disturbance and abandonment, which combined with low nutrient soils and introduced materials creates the mosaic of early successional habitats - hence they are now commonly referred to open mosaic habitat on previously developed land.
Buffer strips	Areas of land maintained in permanent vegetation, such as grass, shrubs, or trees, that help to control air quality, soil quality and water quality. They are commonly used to protect water bodies from runoff, in particular agricultural runoff but are also used for other habitat types sensitive to pollution and disturbance.
Canopy cover	The area of floor covered by the vertical project of tree crowns.
Carbon capture, usage and storage (CCUS)	A technology aimed at capturing carbon dioxide emissions from industrial processes, power plants, and other sources, preventing them from entering the atmosphere and contributing to climate change. The captured carbon dioxide can then be either reused in various industrial applications or stored permanently in geological formations deep underground.
Carbon Sequestration	The process of capturing carbon dioxide from the atmosphere and storing it in various forms to reduce its presence in the atmosphere and help mitigate global climate change. It occurs naturally through biological processes like photosynthesis by trees and plants, and through geological processes involving the storage of carbon in the earth's crust. Humans also enhance sequestration through conservation efforts and develop technological methods for capturing carbon dioxide from industrial sources and storing it underground or in other forms (Carbon capture, usage and storage).

Catchment (river)	An area of land where water, be it from rainfall, snowmelt, or ice, collects from higher areas above it. It's usually surrounded by hills or mountains, which allows water to flow over the landscape into streams and tributaries, and down into the soil, eventually finding its way to the local river, lake, or reservoir. The water absorbed underground slowly feeds the river in drought periods. River catchments can vary in size, going from small urban areas to large estuaries. They are extremely complex and intertwined ecosystems that support a great range of biodiversity and enable human activity. Any changes carried out upstream will eventually be noticed downstream.
Chalk cliffs	Chalk cliffs are formed from the compressed, mineralized skeletons of tiny marine plankton that accumulated on the seabed over millions of years. These soft, porous white rocks are then uplifted and exposed to the elements, forming dramatic coastal cliffs that have been shaped by wave action and erosion.
Chalk grassland	Chalk grassland, also known as lowland calcareous grassland, is a rich, species-diverse habitat found on shallow, nutrient-poor, lime-rich soils overlying chalk bedrock. These conditions allow a variety of small, short herbs and plants to thrive, rather than dominant lush grasses. Chalk grassland is internationally important for its rarity and biodiversity, supporting numerous butterfly and plant species.
Chalk reef communities	Unique marine ecosystems found on the soft, chalk platforms along the south and east coastlines of England. These rare habitats support diverse communities, including extensive algal flora, mussels, and various fish and seabirds.
Chalk stream	A rare river habitat fed by pure, mineral-rich water from underground chalk aquifers, resulting in clear, constant flow, and diverse wildlife. England has 85% of the world's chalk streams, which support unique aquatic plants, insects, and fish.
Clay river	A river system with a substrate or surrounding landscape dominated by clay, which often features heavy soils, lower-lying floodplains, and a dense network of headwaters and larger river corridors.
Coastal	Habitats found wherever the land meets the sea - these are areas that are inundated at high tide.
Coastal & floodplain grazing marsh	Periodically inundated pasture or meadow with ditches, which maintain the water levels, containing standing brackish or freshwater. Located on coastal lowlands or floodplains.
Collaborative	Two or more people working together towards a shared purpose.
Connectivity (habitat)	The degree to which a landscape allows the unimpeded movement of organisms and natural processes between habitat patches. It is essential for maintaining healthy populations, facilitating gene flow and seed dispersal, and enabling wildlife to adapt to environmental changes like climate change.
Cover crop	A plant that's grown to cover the soil for a period, not for harvest, to improve soil health and manage its environment. Key benefits include reducing soil erosion and nutrient loss, increasing soil organic matter and fertility, suppressing weeds, and providing habitat for beneficial insects and wildlife. Commonly sown after main crops are harvested, cover crops are then terminated and left in the field as a "green manure" to feed subsequent crops, or they are tilled in to add organic matter and nutrients to the soil.
Crop rotation	The practice of planting a sequence of different crops in the same area across different growing seasons to maintain soil health, prevent the buildup of pests and diseases, and optimize nutrient use. By rotating different types of crops, you break the life cycles of pests and diseases, improve soil fertility by varying nutrient demands, and reduce reliance on

	chemical inputs.
DEFRA	The Department for Environment, Food and Rural Affairs - a ministerial body responsible for improving and protecting the environment, growing a green economy, sustaining thriving rural community and supporting the country's food, farming and fishing industries.
Delivery partner	A strategic collaborator involved in the development, implementation and delivery of the Local Nature Recovery Strategy.
Designated site	Statutory sites have protection under UK, European and International law, while non-statutory sites are recognised in local planning as being of importance in the local area. Often, the most important sites will have more than one designation. • Statutory sites: Sites of Special Scientific Interest, Special Areas of Conservation, Special Protection Areas, Ramsar sites and National Nature Reserves. • Non-statutory sites: Local Wildlife Sites, Roadside Nature Reserves, Local Nature Reserves.
Diffuse pollution	Diffuse pollution, or non-point source pollution, occurs when pollutants are released from scattered sources, such as agricultural runoff, urban stormwater, and atmospheric deposition, and are carried into waterways and groundwater by rainfall and surface runoff. Unlike point source pollution, which comes from a specific, identifiable site like a pipe, diffuse pollution originates from a wide range of activities and accumulates to have a significant impact on water quality and the environment at a larger scale, such as a river catchment.
Ecological integrity	The ability of an ecosystem to maintain its natural characteristics, including a complete community of organisms with a characteristic species composition, diversity, and functional organization, and the ecological processes that sustain them. An ecosystem with integrity is resilient, able to withstand and recover from disturbances, and provides ecosystem services.
Ecosystem services	The direct and indirect benefits that human beings receive from healthy, functioning ecosystems, encompassing tangible products like food and water, and intangible benefits such as climate regulation and cultural inspiration. These services are typically categorized into provisioning (goods), regulating (processes), supporting (fundamental functions), and cultural (non-material) benefits.
Environment Act 2021	The Environment Act 2021 is the UK's framework for environmental protection, introducing legally binding targets for areas like air quality, water, biodiversity, and waste. It established the Office for Environmental Protection (OEP) to oversee compliance, modernized waste crime regulations, mandated biodiversity net gain for development, created Nature Recovery Networks, and introduced new duties for local authorities on waste and nature recovery. The Act aims to improve environmental quality, halt species decline, increase recycling, and enhance resource efficiency by providing new powers and responsibilities for government bodies and businesses.
Ephemeral headwater stream	A small, non-permanent stream that flows only temporarily, usually in direct response to precipitation like rain or snowmelt, and is not connected to groundwater year-round.

Estuary	A semi-enclosed coastal body of brackish water (a mix of fresh and saltwater) where rivers or streams flow into the sea, creating a transitional zone between a river and the ocean. These highly productive ecosystems serve as vital habitats for diverse wildlife, act as natural filters for pollution, offer coastal protection from floods and storms, and are important for human activities like fishing and recreation.
Evidence-led	Strategic approach where decisions are guided by the collection and analysis of verifiable data and evidence rather than relying on subjective opinions.
Fauna	All the animal life present in a particular region or time.
Flood-plain	A flat, low-lying area of land next to a river or stream that periodically gets covered by water when the river overflows its banks
Flora	All the plant life present in a particular region or time.
Flow	The amount of water moving down a river at a given time and place; measured as a volume of water per unit time.
Forage	Area over which an animal can search for and source food.
Freshwater	Naturally occurring water with low salt concentration, found in glaciers, rivers, lakes, and groundwater. It is essential for life, supporting diverse ecosystems and providing water for human use.
Freshwater wetland	An ecosystem permanently or seasonally saturated with water that contains low concentrations of salt. They are transitional areas between dry land and open water, characterized by specialized vegetation that has adapted to waterlogged, oxygen-poor soil conditions.
Functional habitat	A specific area that not only meets an organism's basic survival needs like food, water, and shelter but also provides the necessary ecological and physical components to support its life cycle, including reproduction and movement. It takes into account aspects like resource availability, connectivity, and the impacts of landscape features.
Functionally linked land	An area of land outside a designated protected site that is used by the species for which the site is designated, and is therefore critical to its conservation. The land serves a crucial purpose for species, providing space for feeding, breeding, resting, or migrating; but unlike a habitat corridor that structurally links two areas, functionally linked land does not need to be physically joined to the protected site. The connection is behavioural and ecological, as the species travel between them through the surrounding landscape.
Functioning (ecosystem)	A dynamic system where biological, geochemical, and physical processes occur, supporting the collective life activities of plants, animals, and microbes while cycling energy and nutrients. It maintains stability, regulates essential processes, and provides benefits to humans.
Gill woodland	Found in the extreme upper reaches of rivers, where springs and streams first form in small, steep, wooded valleys. The steep sided nature of Gills has also ensured that many Gill woodlands have remained untouched and undisturbed by human activity. Gill woodlands have an unusual micro-climate and they are therefore unique.
Good ecological status (water body)	Indicates a healthy, functioning ecosystem with only minor deviations from undisturbed natural conditions, reflecting a good balance of biological, chemical, and physical elements.
Grassland	An ecosystem dominated by plants of the grass family, but may also include various herbs, sedges, and legumes.

Green space	Defined in Kent and Medway LNRS (unless stated otherwise in mapping methodology) as Parks and gardens – urban parks, country and regional parks, historic, formal and managed gardens, children's play areas, stately homes; Amenity greenspace – informal recreation spaces, village greens, urban commons; Natural and semi-natural urban greenspaces – woodland and scrub, grassland, heath or moor, wetlands, open and running water, wastelands and disturbed ground; Green corridors – rivers and canals including their banks, cycling routes, pedestrian paths, and rights of way; Allotments; Community gardens and orchards; City farms; Cemeteries, churchyards and other religious grounds; Playing fields and pitches; Golf courses; Equestrian sites.
Groundwater	Water that has filtered below the Earth's surface into porous, underground geological layers called aquifers. It is a vital natural resource that supports both ecosystems by flowing into rivers and wetlands and human communities through public water supplies and private use for domestic, agricultural, and industrial purposes.
Habitat change	The alteration of an area where a plant or animal lives, caused by factors such as human land use, climate change, natural disasters, and pollution, leading to habitat loss, degradation, or shifts in vegetation and conditions.
Habitat corridor	A habitat corridor, or wildlife corridor, is a strip of land or water that connects two or more separate natural habitats, allowing animals to safely move between them to find food, water and shelter, and breed. These corridors, which can be natural (e.g. hedgerows) or man-made (green bridges over roads), are essential for maintaining biodiversity, genetic diversity, and the ability of species to migrate in response to climate change.
Habitat fragmentation	Process where a large, continuous area of natural habitat is divided into smaller, isolated fragments due to human activity such as urbanisation, infrastructure and agriculture. Impacts on wildlife include reduced available habitat, barriers for species movement and feeding, lower genetic diversity and increased vulnerability to disease and other threats.
Headwater stream	The source of a river or stream, where water from rainfall, snowmelt, or springs first accumulates and begins to flow. These streams are the uppermost, smallest tributaries in a river network, acting as the fundamental foundation for the health of entire river systems.
Heathland	An open, low-lying landscape dominated by heather, gorse, and grasses on poor, acid soils, typically requiring human management like grazing and burning to prevent its return to scrub and woodland. This distinctive "semi-natural" habitat supports a range of rare wildlife and plants, including specific birds, reptiles, and invertebrates.
Hedgerow	A planted or natural line of shrubs, often with trees, that creates a physical barrier or boundary, but also functions as a complete wildlife habitat and ecosystem. These vital green corridors stitch together fragmented landscapes, providing essential food, shelter, and nesting sites for a vast array of wildlife, such as birds, bats, and insects, while also offering benefits like carbon capture and flood prevention.
Hydrogeological	The occurrence, distribution, and movement of water below the Earth's surface.
Hydrological	Water's movement, distribution, management and quality on Earth and in the atmosphere.
Important Bird Areas	Globally significant sites identified by BirdLife International for the conservation of birds and other biodiversity.

Important Invertebrate Areas	Places that are home to nationally or internationally significant invertebrate populations and their habitats, identified by Buglife. They include diverse species from beetles and moths to freshwater shrimps and woodlice, and habitats from the shoreline, along rivers and to the uplands.
Important Plant Areas	Key sites for exceptional botanical richness; rare, threatened and socio-economically valuable plant species; and rare and threatened habitats. Identified by Plantlife.
Intertidal	Also known as the littoral zone, is the area of a shoreline that is exposed to the air at low tide and submerged under water at high tide. This coastal region experiences dramatic environmental shifts, including changes in temperature, salinity, and wave action, requiring the organisms that live there to be highly adaptable. Habitats within the intertidal zone include rocky shores, sandy beaches, mudflats, and saltmarshes.
Invasive species	A non-native organism that causes significant ecological, environmental, or economic harm to its new environment. While most non-native or introduced species are harmless, a small percentage have the capacity to spread rapidly and negatively impact native species and habitats.
Irreplaceable Habitat	Habitat that is very difficult (or takes a very long time) to restore, create or replace once it has been destroyed. This may be due to its: age. uniqueness. species diversity. For the purposes of the Local Nature Recovery Strategy, areas of irreplaceable habitat are defined as those included in the Biodiversity Net Gain irreplaceable habitats list, namely: Ancient woodland; Ancient and veteran trees; Blanket bog; Limestone pavements; Coastal sand dunes; Spartina saltmarsh swards; Mediterranean saltmarsh scrub; Lowland fens.
Lake	A large body of standing water, typically freshwater, completely surrounded by land and often fed by rivers, springs, or precipitation. While most are natural, lakes can also be artificial, formed by mineral extraction or river damming.
Land management	The process of planning and controlling how land and its resources are used.
Land manager	A person responsible for overseeing and directing the use and management of a piece of land.
Land use	Describes how humans utilize a specific area of land for various purposes, such as residential, commercial, industrial, agricultural, or conservation activities.
Landowner	A person, entity, or group that possesses ownership rights to land, meaning their name is on the property's title, and they have the legal right to manage, use, and sell the property.
Landscape scale	Working on a large geographical area, such as a river catchment or an entire region, involving collaboration among multiple landholders and stakeholders to manage natural systems and deliver interconnected benefits for nature, society, and the economy.
Lawton principles	Four guiding rules - More, Bigger, Better, and Joined up - for creating a resilient ecological network, proposed by Professor Sir John Lawton in the 2010 Making Space for Nature report.

Local Authorities	An administrative body, run by elected councillors, that provides public services within a specific geographic area, such as housing, planning, environmental health, leisure facilities, waste, schools, roads, libraries, and social care. Collectively, services provide for the economic, social, and environmental wellbeing of the community. In the context of this Local Nature Recovery Strategy we are referring to Kent County Council, Medway Council, Ashford Borough Council, Canterbury City Council, Dartford Borough Council, Dover District Council, Folkestone & Hythe District Council, Gravesham Borough Council, Maidstone Borough Council, Sevenoaks District Council, Swale Borough Council, Thanet District Council, Tonbridge and Malling Borough Council and Tunbridge Wells Borough Council.
Local Habitat map	The Local Habitat Map is a map of the Strategy area that provides a clear visual way for groups and individuals to understand the areas which are, or could become, of particular importance for biodiversity and the environment to target nature recovery action. The mapped parts include: • Location and extent of areas identified as of particular importance for biodiversity. • Locations where potential measures have been proposed. • Location and extent of areas identified that could become of particular importance for biodiversity.
Local Nature Recovery Strategy (LNRS)	A new system of spatial strategies for nature, introduced in the Environment Act 2021. Local Nature Recovery Strategies will help map out the action needed to restore nature, working closely with local stakeholders, especially farmers and land managers. When put together they will be a key way to meet the Government's England-wide nature targets.
Local Nature Reserves (LNRs)	Areas designated by local authorities for their significant local wildlife, geological interest, or educational value. These reserves provide safe habitats for plants and animals, offer spaces for public enjoyment and learning, and support biodiversity. Local authorities, such as town or county councils, establish and manage LNRs, often encouraging community involvement in their care and access.
Local Plan	Local Plans are documents prepared by a council's Local Planning Authority that guide future development by setting out a vision and framework for the area, covering housing, employment, and other priorities, and identifying areas for development or restriction. They are based on up-to-date evidence, undergo an independent examination to ensure soundness, and once adopted, become the starting point for deciding planning applications. Local Plans should safeguard the environment, enable adaptation to climate change and help secure high quality accessible design.
Local Planning Authorities	A local planning authority is the local government body that is empowered by law to exercise urban planning functions for a particular area. For the Strategy area, the following local planning authority roles are assigned to: • Kent County Council - planning authority for minerals and waste and county council developments (e.g. schools and roads). • Medway Council - planning authority all planning matters, including minerals and waste, council developments (e.g. schools and roads) and housing. • District and Borough Councils - all other planning matters, excluding those delivered by Kent County Council.

Local Wildlife Sites (LWSs)	Sites designated on the basis of their representation of the most important, distinctive and threatened species and habitats within a national, regional and local context. In Kent they are proposed locally under the scrutiny of the Kent Nature Partnership, using robust, scientifically-determined criteria and detailed ecological surveys. Their eventual delineation is by the relevant local planning authority.
Lowland drains and marshlands	Low-lying areas of waterlogged terrain, often found inland or along coasts, characterized by grasses, reeds, and sedges.
Lowland meadow	A species-rich grassland habitat that has developed over centuries on neutral, low-nutrient soils. It is a highly biodiverse environment, traditionally managed by grazing livestock or cutting for hay. These meadows are a priority for conservation in the UK due to a significant and continuing decline in their extent.
Lowland mire sites	Rare and threatened wetlands characterized by peat formation, such as lowland fens and valley mires.
Making Space For Nature	The project that developed the Kent and Medway Local Nature Recovery Strategy.
Mapping Platform	The online tool used to present the Strategy mapping and enable its easy viewing and scrutiny.
Mapping Tool	The online platform used to present the Strategy mapping and enable its easy viewing and scrutiny.
Marine Conservation Zones (MCZs)	A specific type of Marine Protected Area (MPA) designated to protect nationally important marine species, habitats, geology, and geomorphology in UK waters. These zones safeguard rare or vulnerable underwater features and are established through legal orders to contribute to an ecologically coherent network of protected areas and meet biodiversity commitments.
Marine Protected Areas (MPAs)	Designated area of the ocean, sea, or estuary, managed to protect and conserve marine life, habitats, and cultural or historical features. The key purpose of an MPA is to protect and recover rare, threatened and important habitats and species from damage caused by human activities. MPAs include Marine Conservation Zones and also Special Areas of Conservation and Special Protection Areas, with marine components.
Migration	Seasonal movement of species to a different environment, often for breeding or food. However with climate change, migration may also mean the movement of species in response to changing habitat conditions.
More	Through habitat restoration and creation, establish new, nature-rich sites that not only provide more space for nature but also provide connectivity between existing core sites.
Mosaic Habitat	An area containing closely adjacent, diverse habitat types, such as grasslands, scrub, wetlands, and bare ground, that create a complex, interconnected landscape supporting high biodiversity. This "patchwork" of different environments allows various species to thrive by providing a range of resources and microclimates within a relatively small area.
Mudflat	A coastal wetland that forms in sheltered areas, such as bays, lagoons, and estuaries, where fine silts and clays carried by tides and rivers are deposited. They are part of the intertidal zone, meaning they are covered by seawater at high tide and exposed at low tide.

National Character Areas (NCA)	National Character Areas divide England into 159 distinct areas. Each is defined by a unique combination of landscape, biodiversity, geodiversity, history, cultural and economic activity. NCA boundaries follow natural lines in the landscape, not county or district boundaries.
National Landscape	A designation applied to an exceptional landscape whose distinctive character and natural beauty are precious enough to be safeguarded in the national interest. On par with National Parks, National Landscapes are protected and enhanced for nature, people, business and culture. There are 46 National Landscapes across England, Wales and Northern Ireland. The Strategy area includes all of the Kent Downs National Landscape and a portion of the High Weald National Landscape.
National Nature Reserves	A protected area of land designated for its nationally important wildlife, habitats, or geological features. NNRs offer opportunities for research and for people to experience nature firsthand.
Native oyster beds	A complex marine habitat created by native oysters on the seabed, providing a hard, rocky structure from the shells of dead and living oysters. These beds are crucial "ecosystem engineers," filtering vast amounts of seawater, supporting biodiversity by providing habitat for juvenile fish and shellfish, and stabilizing sediments.
Native species	An organism that occurs naturally in a particular region or ecosystem due to local natural evolution, having evolved in its natural range without human intervention. These species are adapted to the local environmental conditions and play a specific role in the local food web.
Natural form (river)	A free-flowing, dynamic system that creates diverse habitats and landforms through processes like erosion, deposition, and meandering, including features like gravel bars, oxbow lakes, and varied vegetation zones. Unlike modified or straightened rivers, which are often channelized and cut off from their floodplains, a natural river maintains a complex, varied structure and supports a rich diversity of wildlife, with unconstrained flows allowing for natural sediment transport and the creation of complex ecological niches.
Natural regeneration	The ecological process where plants and woodlands re-establish themselves without human planting, primarily through seeds, suckering, or layering from existing trees. This process is an important method of forest creation and recovery, offering benefits such as greater genetic diversity, increased resilience to pests and climate change, and reduced management costs compared to tree planting.
Nature Friendly Farming	A farming approach using sustainable practices that produce food while restoring and protecting the natural environment. Rather than depending on high inputs of artificial chemicals, this approach builds farm resilience by working with natural processes to improve soil health, increase biodiversity, and mitigate climate change.
Nature-based solutions	Nature-based Solutions (NbS) are actions that protect, manage, and restore natural and modified ecosystems to address societal challenges like climate change, biodiversity loss, and poverty. They involve working with nature to provide human well-being and biodiversity benefits, offering cost-effective, adaptive, and resilient approaches.
Non native species	An organism introduced to an area outside its natural range, whether accidentally or deliberately, by human activity. The vast majority are not considered harmful, but a small proportion become "invasive," causing significant damage to the environment, economy, or human health.

Nursery (fish)	An area with abundant food and protection that is supports juvenile fish to grow before moving to adult habitats.
Open coast	A stretch of coast where natural forces and systems are dominant, featuring wilderness and naturalness.
Open mosaic habitat on previously developed land	A high-biodiversity habitat, primarily found on former industrial (brownfield) sites, that develops from a mix of bare ground, short-sward grassland, scrub, and ruderal (unmanaged weed) vegetation communities. This diversity supports rich invertebrate and plant communities, including rare species.
Open space	Defined in Kent and Medway LNRS (unless stated otherwise in mapping methodology) as Parks and gardens – urban parks, country and regional parks, historic, formal and managed gardens, children's play areas, stately homes; Amenity greenspace – informal recreation spaces, village greens, urban commons; Natural and semi-natural urban greenspaces – woodland and scrub, grassland, heath or moor, wetlands, open and running water, wastelands and disturbed ground; Green corridors – rivers and canals including their banks, cycling routes, pedestrian paths, and rights of way; Allotments; Community gardens and orchards; City farms; Cemeteries, churchyards and other religious grounds; Playing fields and pitches; Golf courses; Equestrian sites.
Permaculture	A design philosophy and framework for creating sustainable human habitats and agricultural systems by imitating patterns found in natural ecosystems, rather than working against nature.
Pests	Any animal or plant that is considered a nuisance, causes damage, or poses a health hazard.
Planning system	The process for managing land and buildings, balancing the needs of the community, economy, and environment. It is primarily administered by local government authorities, though national policy also applies.
Pond	A small, still, contained body of water, usually fresh but sometimes brackish, that can be natural or man-made and holds water for at least four months of the year. Ponds serve as vital habitats for diverse wildlife, including plants, invertebrates, amphibians, and fish, while also offering benefits like flood reduction and cooling effects. They come in various sizes and shapes, from small garden ponds to larger, natural pools.
Potential Measure	The proposed action to deliver the priority – these must be practical and achievable.
Potential Measures Mapping	Identifies where the action determined as necessary for our nature recovery priorities should be strategically targeted to achieve the greatest gains for biodiversity and deliver the widest environmental benefits.
Priority	The outcome we want to see for nature.
Priority Species	Species the Strategy has determined should be prioritised for recovery action. They were identified from an initial list of threatened and locally significant species.
Production and provisioning services	Tangible products obtained directly from ecosystems that support human life and needs, including food, water, timber, genetic resources, and medicinal resources. These services involve the extraction, harvest, and use of natural resources for subsistence or industrial purposes, such as agriculture, fishing, mining, and energy generation from natural sources.

Public Right of Way (PRoW)	Legally protected routes in England and Wales that people can use for travel, often on land privately owned but accessible to the public. There are different types of PROWs, including footpaths (for walkers), bridleways (walkers, horse riders, and cyclists), restricted byways (any non-motorized transport), and byways open to all traffic (BOATs) (all traffic, including motor vehicles).
Q10 flows	The flow in cubic metres per second which was equalled or exceeded for 10% of the specified term – a high flow parameter which, when compared with the Q 95 flow provides a measure of the variability, or 'flashiness', of the flow regime https://nrfa.ceh.ac.uk/derived-flow-statistics
Ramsar sites	Wetlands of international importance designated under the Ramsar Convention on Wetlands, an intergovernmental treaty focused on the conservation of wetlands. These sites are recognized for their role in conserving biological diversity and their biological or hydrological value. Most Ramsar sites overlap with the SACs and SPAs.
Recreational disturbance	Any human leisure activity that negatively impacts wildlife or habitats, causing changes in behaviour, habitat damage, or physical harm to animals.
Reedbed	A wetland ecosystem characterized by dense stands of common reed (Phragmites australis), where the water table is at or above ground level year-round. These habitats form at the transition between land and water and serve as vital natural filters, removing pollutants while producing clean water. Reedbeds are also crucial for biodiversity, providing essential habitat and food for a wide range of wildlife, including rare birds like the bittern.
Regenerative practices	A set of farming and land management techniques designed to reverse soil degradation, improve biodiversity, and enhance the health of the entire ecosystem, rather than just sustaining it. Approaches include reduced inputs, reduced cultivation, no/minimum till, deeper rooting, stronger rooted swards, over wintering stubble, cover crops, minimise compaction, plough along contour, maintain invertebrates and bacteria.
Resilience (climate change)	The capacity ecosystems to withstand, adapt to, and recover from climate-related hazards, such as extreme weather events and slow-onset changes like sea-level rise. It involves understanding risks, developing land management strategies, and implementing a combination of adaptation and mitigation actions to cope with and thrive under a changing climate.
Resilience (ecological)	An ecosystem's ability to withstand and recover from disturbances, maintaining its core structure and functions while continuing to provide vital services like clean water and climate regulation.
Responsible Authority	The organisation that leads the preparation of the Local Nature Recovery Strategy - in most cases a combined authority, county council or unitary council. For the Kent & Medway Local Nature Recovery Strategy, the responsible authority is Kent County Council.
Rewilding	A large-scale conservation approach that restores ecosystems by allowing natural processes to take over, giving nature the space and freedom to recover and adapt on its own terms. It goes beyond traditional species-focused conservation by emphasizing the large-scale restoration of natural systems and the return of missing species to restore functioning, biodiverse, and resilient ecosystems.

River	A natural stream of fresh water that flows from a source on high ground toward another body of water, such as an ocean, lake, or another river. The journey of a river is shaped by the land it flows across, gradually eroding and depositing sediment along its course.
Roadside Nature Reserves (RNRs)	Protected stretches of roadside verge that are managed to conserve biodiversity, serving as vital refuges for rare plants, insects, and other wildlife. Often a remnant of once-extensive habitats like meadows, these verges are particularly valuable in landscapes that have been fragmented.
Safeguarding	In the context of this Strategy, this does not imply a formal protection nor prevention of potentially impactful activities, unless already identified within an existing and adopted local plan or an already established legal protection. Safeguarding may be delivered by setting aside the land but also refers to the use of active management that prevents loss and damage, the use of buffers to minimise human impacts and connecting habitats to increase resilience. Where measures refer to safeguarding areas, this does not mean that nothing can happen in these areas; rather that appropriate action should be taken within these areas to support the habitats and species they are notable for.
Saline lagoons	An area of shallow, coastal saltwater that is partially or completely separated from the open sea by a natural barrier, such as a sandbank, or an artificial one, like a sea wall. This restricted connection to the sea creates a unique environment where the salinity can fluctuate, ranging from brackish (less salty than seawater) to hypersaline (saltier than seawater).
Saltmarsh	A coastal wetland, found where land meets saltwater, dominated by salt-tolerant plants like grasses and shrubs that are regularly flooded by tides. These vital habitats act as natural flood defences, provide crucial environments for diverse wildlife, and are important for carbon sequestration and nutrient remediation.
Scrub	Also known as scrubland, is an area dominated by shrubs, bushes, and other low-growing plants, often forming a transitional zone between open grassland and woodland. These habitats are valuable for wildlife, providing shelter, food sources like berries and seeds, and breeding or roosting sites. Scrub habitats feature a diverse mix of vegetation, with natural edges and a mosaic of different heights and ages of shrubs, grasses, and herbs, such as brambles, hawthorn, and thistles.
Seagrass	The only type of flowering plant that can live fully submerged in seawater, forming underwater meadows that are vital ecosystems. These marine plants have roots, stems, and leaves, and play a crucial role in coastal health by providing food and shelter for diverse marine life, acting as nursery grounds for fish, storing significant amounts of carbon (known as blue carbon), filtering pollutants, and stabilizing coastlines.
Sensitive land management	Implementing practices that deliver environmental and climate benefits alongside food production. Key practices include creating wildlife habitats, improving water quality by reducing pollution, increasing resilience to flooding and drought, planting trees, managing soils sustainably, and reducing carbon emissions.
Sites of Special Scientific Interest (SSSI)	A legally protected area of land, habitat, or geological feature in the UK that is of national or international importance for nature and geology. Designations are made by bodies like Natural England and NatureScot, with owners and occupiers having responsibilities to manage the land and seek consent for potentially harmful activities.

Soil management	Practices that maintain or improve soil health, fertility, and productivity for sustainable agriculture and land use. Key practices include adding organic matter, using cover crops, practicing crop rotation, reducing soil compaction, and avoiding working wet soils.
Spatially framed strategy	A plan or approach that integrates physical space into strategic decision-making, often by focusing actions on specific locations to achieve maximum benefit. This spatially framed strategy for nature, focusses action to where its most needed and where it will deliver the greatest benefits.
Special Areas for Conservation (SACs)	A protected area in the UK and Europe designated to conserve natural habitats and species listed in the Habitats Directive. These areas form part of the Natura 2000.
Special Protection Areas (SPAs)	A designation for land or sea sites that are internationally important for protecting vulnerable bird species, especially migratory and Annex I listed birds, under the EU's Birds Directive. These areas form part of the Natura 2000 and require conservation measures to protect the birds, their habitats, eggs, and nests.
Species rich grassland	Defined as species-rich if it has more than 15 plant species per square metre; more than 30% cover of wildflowers and sedges (excluding white clover, creeping buttercup and injurious weeds); less than 10% cover of white clover and perennial rye grass.
Species-rich hedgerow	A hedgerow that contains a high diversity of native woody plants, typically defined by having at least five native woody species within a 30-meter section. These hedges are crucial for biodiversity, providing food, shelter, and movement corridors for wildlife. They also offer other benefits like windbreaks and soil erosion control.
Spring	A natural point where groundwater flows to the surface, forming part of the water cycle.
Stage Zero restoration	The philosophy of Stage Zero restoration is to work with natural processes to rehabilitate a modified and incised, or aggrading, channel network and restore the water connection to its floodplain – for more information see https://environmentagency.blog.gov.uk/2022/12/09/resetting-our-rivers-how-taking-them-back-to-stage-zero-could-help-nurture-nature/
Stakeholder	An individual, group or organisation within or has links to the Strategy area.
Strategic significance	The statutory biodiversity net gain metric formula takes different factors into account, including the habitat's size, condition, type and strategic significance. Strategic significance is the local significance of the habitat based on its location and habitat type. Where a Local Nature Recovery Strategy has been published, high strategic significance (and the associated score) is applied when: • the location of the habitat parcel has been mapped in the Local Nature Recovery Strategy as an area where a potential measure has been proposed to help deliver the priorities of the Strategy; and • the proposed intervention is consistent with the mapped potential measure in the Local Nature Recovery Strategy for the habitat parcel.

Stream	A smaller, flowing body of water that can be a tributary to a larger river. A river is a substantial, natural stream that is wider, deeper, and often navigable. The distinction between the two is subjective and depends on factors like size, flow, and geographical significance.
Successional Habitats	A specific stage within the natural process of ecological succession, where one habitat type gradually transforms into another over time. These habitats are defined by the mix of plant and animal species present, and they naturally progress through a series of stages, from pioneer species to a relatively stable "climax community," such as a mature forest.
Supporting Authority	The local planning authorities in a Local Nature Recovery Strategy area that are not the lead responsible authority. Their role is to provide input and ensure the strategy accounts for their area's local priorities. For this Strategy the supporting authorities are: Medway Council, Ashford Borough Council, Canterbury City Council, Dartford Borough Council, Dover District Council, Folkestone & Hythe District Council, Gravesham Borough Council, Maidstone Borough Council, Sevenoaks District Council, Swale Borough Council, Thanet District Council, Tonbridge and Malling Borough Council and Tunbridge Wells Borough Council.
Supporting Measures	Supporting mechanisms, processes and functions that are considered critical to the delivery of the identified potential measures for habitats and species, and without these being addressed those measures will be limited in their success.
Surface water management	Environmentally friendly methods to manage rainwater by using natural processes to filter, store, and slowly release it, which helps reduce flooding and pollution, improves water quality, and creates green spaces in urban areas.
Sustainable drainage systems (SuDS)	A natural approach to managing surface water runoff in urban and rural environments. Unlike conventional drainage, which quickly pipes water away, SuDS use a sequence of techniques to mimic natural drainage, slowing and holding back water while filtering out pollutants.
Sustainable land management	A land management approach which aims to balance human needs with the long-term health of the environment by reducing land degradation, enhancing biodiversity, and mitigating climate change impacts.
Swift Bricks	Universal nest brick for cavity nesting small bird species
Traditional orchard	A low-density planting of standard or half-standard fruit and nut trees in permanent grassland. Managed in a low-intensity, chemical-free way, these orchards are a distinct habitat that supports a rich diversity of wildlife. This contrasts with modern, intensive orchards that use high-density plantings of dwarf trees and are managed with chemical inputs.
Transitional habitat	The boundary zone between two different ecosystems or plant communities, such as where a woodland meets a grassland or where fresh and saltwater interact in an estuary. These areas are characterized by a unique mix of species from both adjacent habitats, creating conditions that support a high level of biodiversity and act as important wildlife corridors.
Trees outside woodland	A critical and often underestimated resource in both rural and urban landscapes, defined as trees on land that does not meet the criteria for a forest (typically <0.5 hectares). They include trees in hedgerows, parks, gardens, agricultural land, and along roads and waterways. They provide disproportionately high ecological, cultural, and economic value

	compared to the small area they occupy.
Urban cooling	The use of strategies and technologies to counteract the "urban heat island" effect, a phenomenon in which cities become significantly warmer than their surrounding rural areas. This is mainly due to dense urban development, which uses materials like concrete and asphalt that absorb and retain more heat. Urban cooling strategies include green, blue, and grey infrastructure.
Urban environment	A human settlement characterized by high population density, infrastructure, and a built-up landscape, distinct from rural or natural areas. These areas, which include cities, towns, and suburbs, are dynamic ecosystems shaped heavily by human activity.
Urbanisation	The increasing proportion of people living in urban areas, or cities and towns, compared to rural areas and the resulting growth of developed areas.
Vegetated shingle	A rare and fragile coastal habitat that forms on stable shingle beaches. These are beaches composed of pebbles and stones, rather than sand, and the plants that grow there must be highly adapted to withstand the harsh conditions of wind, salt spray, and drought.
Veteran tree	Ancient trees are veteran trees, but not all veteran trees are old enough to be ancient. Veteran trees are survivors that have developed some of the features found on ancient trees. However, veteran trees are usually only in their second or mature stage of life.
Wet woodland	A tree-dominated habitat that grows in poorly drained or seasonally flooded soils, featuring trees that are adapted to waterlogged conditions. These woodlands are important for biodiversity, especially invertebrates, and play a vital role in water quality by buffering pollutants and helping to control flood risk by storing water.
Wider measures	Proposed actions which would be similarly beneficial over wide areas or it was not possible to determine specific locations to carry out the proposed action. Collectively, these wider measures identify areas of additional opportunities for nature recovery but do not form a part of the formal Local Nature Recovery Strategy's Local Habitat Map.
Wilding	Allowing plants to grow uncultivated to encourage wildlife or, more broadly, the process of restoring natural processes to an area of land with minimal human intervention.
Wildlife corridor	Linear features, either natural or human-made, that connect fragmented habitats, enabling animals and plants to move, disperse, migrate, access resources like food, water and breed.
Wood pasture and parkland	Historic and ecologically rich "mosaic habitats" that feature large, open-grown trees in a matrix of grazed grassland or heathland.
Woodland	An area of land covered with trees and shrubs.

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Appendices

Please click on the above weblink to view the appendices, which are presented online.