Sussex Nature Recovery

A collective blueprint for targeted action

west sussex county council

West Sussex Local Nature Recovery Strategy

Statement of Biodiversity Priorities
Part 2 – Priorities, Measures and the Local Habitat Map

June 2026

Cover image

Views of the South Downs around Midhurst, West Sussex

Illustrations

Contents

Contents

Wetland Intertidal Mudflat, Chichester Harbour, Thorney Island

Section 1.

About the LNRS

Low Weald

1.1 Preface

This document is one of four that comprises the Local Nature Recovery Strategy (LNRS) for West Sussex and is Part 2 of its Statement of Biodiversity Priorities.

Local Nature Recovery Strategies are a new system of spatial plans for nature introduced by the Environment Act 2021. 48 strategies are being developed across England. Each covers a county (or equivalent) area and is led by a 'Responsible Authority' (RA), which in this instance is West Sussex County Council.

Local Nature Recovery Strategies aim to develop and agree the priorities for nature's recovery in collaboration with local stakeholders including residents, farmers, community groups, organisations and businesses. They provide a set of practical actions that can deliver the priorities and map where actions to create or enhance habitats could be implemented to deliver the greatest benefit for nature and the wider environment. As documents that have been developed through collaboration and consultation with a wide range of stakeholders, they can be used to help target investment and action where it is needed most to support nature's recovery across each LNRS area.

1.2 The other parts of this LNRS

Part 1 of the West Sussex LNRS provides important background for the contents of the rest of the strategy:

- A summary of how we developed this Local Nature Recovery Strategy;
- An overview of the important habitats and species in West Sussex, their extent, condition and the pressures they face;
- A snapshot of the views of local people, expressed through our surveys;
- What is already happening – some of the organisations, partnerships, projects and groups that are working for nature in West Sussex.

Part 3 covers the priority species in West Sussex and the measures that can be taken to support their recovery.

Part 4 provides additional technical detail about how we developed this strategy.

Read all the Parts of the LNRS on the Sussex Nature Recovery website.

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

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

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

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

Section 2.

Introduction

Corn bunting

This document forms the core of the Local Nature Recovery Strategy for West Sussex. It sets out the priorities for nature's recovery across the area and the actions (or measures) to deliver them. As required by LNRS government guidance, they focus primarily on **habitats** while those for species are set out in Part 3 of this Statement of Biodiversity Priorities.

Ahead of the priorities and measures, a set of broad **principles** is provided to guide our approach to nature's recovery as set out in this strategy. These principles illustrate that success will require tackling the challenge as a complex problem that requires actions by different stakeholders at different scales and through varying techniques. They reflect the understanding and expertise of stakeholders across our LNRS area of the different elements that need to be in place if we are to achieve real progress over the years ahead. And, as Local Nature Recovery Strategies are themselves limited in their scope, these principles are accompanied by a reminder of how they will be interpreted within the strategy.

The **Local Habitat Map** follows the priorities and measures. This identifies where measures can best be located to deliver the greatest benefit for biodiversity and the wider environment.

A set of suggestions on **how to use this LNRS** is then provided, to explain how this document may be relevant to different individuals, organisations and partnerships, and how it can support them.

Finally, and **looking ahead** this document reflects on what will be needed to help deliver this Local Nature Recovery Strategy and fulfil its potential to halt the decline in nature across West Sussex and move towards nature's recovery.

South Downs © iStock.com/HerbySussex

Section 3.

Eight Principles for nature recovery in West Sussex

River Arun, Arundel

Principle 1.

In our core areas for nature, hold on to what we have and make it better.

Our designated sites, irreplaceable and priority habitats are our core areas for nature around which future action can be based. Together they make up c.30% of our LNRS area and are the foundation of our 'nature-recovery network'. This is high in comparison to other parts of England but means we have a responsibility to conserve these existing areas of important habitat, preventing further loss or degradation and improving their ecological condition.

While some of our sites and important habitats are well managed, many are not and remain in poor condition. While we have some large 'flag-ship' protected sites, many others are small and disconnected from each other. Small size, poor condition and disconnection from other sites means that many of our most important areas of habitat are not functioning well either in support of species or in delivery of important wider environmental benefits.

As a result, nature's recovery in West Sussex must start by conserving these core areas of important habitat to prevent any further loss or degradation, while working to improve their ecological condition and resilience to change. This will include understanding the impacts of climate change on our most vulnerable habitats and species, and how approaches to management may need to change through time.

The Mens, a large area of ancient woodland, is one of our core areas for nature. It is designated as a Special Area of Conservation (SAC) and is home to the rare Barbastelle bat.
© Nigel Symington/ Sussex Wildlife Trust

Our strategy aims to help this by:

- Identifying how we can take the best care of our important habitats.
- Supporting the creation of a connected network of high-quality habitat around and between our core areas. (See principle 2).
- Targeting habitat creation and improvement in key locations in our river catchments to improve both the flow and the quality of freshwater. Many of our fragile and internationally important coastal and wetland habitats and designated sites depend on this.
- Supporting our most vulnerable core sites and areas of habitat to respond to pressures such as sea level rise, changes in temperature/precipitation, over-grazing by deer and so on.

Important notes

- LNRS cannot strengthen existing legal protections for important sites or habitats, but they can help identify actions which will help to make them 'better' and support their key role as the foundation of our nature recovery efforts.
- Designated sites such as SSSIs and NNRs are already managed through a statutory mechanism, so to avoid confusion, any actions related to them in this strategy will be complementary to existing management arrangements.

Principle 2.

Create a network of 'bigger, better, more and joined-up' wildlife-rich spaces across our rural and urban◊ landscapes.

To support our core sites, we also need to create new areas of habitat that expand the habitats around and help to 'join them up' across the landscape by providing stepping stones and corridors of habitats between them. Being part of a healthy network will increase their resilience to pressures and their ability to provide ecosystem services such as pollination, flood risk reduction and improvement of water quality. It will also support our species by allowing them to move safely across the landscape.

Whilst the LNRS cannot identify new areas to be given legal protection, this principle, and priorities and measures arising from it, will help to support the UK's commitment to protect and conserve a minimum 30% of land and sea for biodiversity by 2030, known as 30by30. The target is seen as a key driver in reversing the decline of nature in the UK, by expanding and improving our protected areas and creating new areas for wildlife, allowing nature to spill over into the wider landscape.

The actions required to create a 'nature network' of high-quality habitats may vary from place to place depending on what is there now. For example, habitats in the High Weald are already relatively well connected, so the emphasis in this area should be on enhancing the condition of what is there already and expanding smaller areas of habitat where possible. Chalk grassland patches in and outside of the South Downs National Park are very fragmented, so expanding these areas and joining them up will make the most difference. The farmed landscape of West Sussex provides many patches and corridors of valuable habitat for wildlife, but the potential exists to expand and better connect these for nature alongside food production. At an even greater scale, there is the potential to create better habitat connectivity with designated sites and wildlife-rich areas beyond the LNRS boundary.

Our coastal habitats within West Sussex are at extreme risk from climate change and due to 'coastal squeeze' will have very few places to go when sea levels rise. Key to their survival will be to identify where and how action can be taken to create new areas of coastal habitat where this may be viable and secure into the future.

The Weald to Waves vision. Founded by farmers and now a movement, Weald to Waves seeks to establish a 100-mile nature corridor across Sussex.
© Weald to Waves

◊ **Urban**
Urban in this LNRS context broadly refers to settlements and includes hamlets and villages, towns and cities.

Finally, in many of our urban areas, a lack of parks, greenspaces or easy access to the wider countryside on their edges means that there are few opportunities for nature to thrive or for local people to connect to nature.

Action by local authorities to create green and blue corridors in our built-up areas will help to connect people to nature while providing new and connected habitats for urban wildlife. Small actions at a local scale can also help to make our gardens, allotments, churchyards and greenspaces wilder and better able to support species.

Our strategy aims to help this by:

- Guiding the creation of a much bigger, stronger, more resilient and connected network of core areas for nature in West Sussex and beyond.
- Targeting action where this will improve the ecological condition of habitats.
- Identifying strategic locations for the creation of new habitat, with an emphasis on locating this where it will expand or better connect the habitats we already have.
- Applying the ‘bigger, better, more and joined-up’ approach to urban areas, creating more opportunities for nature in spaces like golf courses, recreation grounds and playing fields.
- Providing information on the actions, big and small, which will help to support nature recovery across West Sussex.

Principle 3.

Think big: work at scale to support ecosystems and natural processes.

The landscape of West Sussex is heavily modified by human presence. As a result, our key ecosystems are under pressure, and this threatens their ability to deliver the ecosystem services we depend on. In many places natural processes such as floodplain function, natural water storage in the landscape, carbon storage in soils and the role of coastal habitats in preventing or in slowing down coastal erosion have been degraded or lost completely.

Some habitats are being jeopardised by the decline in traditional practices (which have helped to create these habitats and mimic natural processes). A reduction in the practice of coppicing to manage woodland is now compromising the structure and diversity of our woodlands.

Invasion by non-native species is a threat to ecosystem function across the West Sussex LNRS area – particularly in freshwater habitats and woodlands – and is likely to become more serious with climate change.

Natural coastal processes, which move sediment, shape and influence habitats along our coastlines have been modified by hard coastal defences (e.g. sea walls and groynes) that predominate along much of the West Sussex coastline. Projections for increased sea level rise, sea water inundation and coastal erosion will increase the need to think about long-term solutions to how we protect people, property and habitats from these threats and the role that natural processes might be able to play in this. Approaches such as 'managed realignment' may be possible in some places, harnessing the power of natural coastal processes to both create habitat and provide a long-term approach to managing coastal flood risk.

Coastal erosion is evident at Climping beach where increasingly frequent storms have destroyed sea defences.
© Diana Alcroft

Achieving meaningful change in ecosystem functioning and habitat creation requires an ambition to work at scale and collaboratively – rather than in isolation and in a small area. Key projects have been initiated to encourage the return of natural processes in Sussex and some of these are leading the way locally and nationally in thinking big and creating a vision of what can be done. Further work is required to support and scale-up these approaches across our LNRS area.

Our strategy aims to help this by:

- Targeting actions for the restoration of natural processes where these can play a significant role in supporting nature's recovery in West Sussex, whilst being mindful of where this is feasible and will deliver the greatest benefit.
- Identifying where there is potential and appetite to work together **at scale** to support natural processes and create and enhance habitats for the benefit of nature and people.

Principle 4.

Work together through a source-to-sea approach to support our terrestrial, freshwater, coastal and marine environments.

Under the Environment Act, Local Nature Recovery Strategies (LNRS) cover terrestrial areas and the coast and their direct influence ends at mean low water spring◊. Therefore, they cannot set priorities for marine habitats and species. Consequently, the LNRS does not contain specific priorities or measures which relate directly to the marine environment or recovery of the habitats and species it supports.

However, in practice our land, freshwater, coastal and marine environments are all part of **one connected system** and what happens on land has an impact, not just on our freshwaters and coasts, but also on our seas. For example, globally around 80% of marine pollution originates on land – from agriculture, cities and industry – and is carried downstream into the sea, with far-reaching impacts for fisheries, tourism and communities. Certain land use practices upstream in catchments affect water flows and water quality in our freshwater systems, increasing flood risk experienced by communities, levels of sediment, nutrients and soil reaching rivers, estuaries and the sea.

A **source-to-sea** approach recognises that all these parts of the system are connected and that actions (positive and negative) in one part have knock-on effects across the rest. In practice, the approach encourages everyone involved to work together, to think upstream and downstream, and to identify how to tackle pressures and improve the functioning of the whole source-to-sea system. It is, however, challenging to implement in practice given the fragmentation of environmental governance across organisations and spatial areas.

The source-to-sea approach is encouraged across the country by the Environment Agency. **Catchment Partnerships** are also in place for each of the catchments in the LNRS area and bring together the Environment Agency, farmers, landowners, local authorities, water companies, nature conservation organisations and others to encourage an integrated source-to-sea approach to action. Their work helps to identify actions and locations where a range of interventions, such as natural flood management, land and soil management, and habitat creation and enhancement can best be located to support the function of the catchment for the benefit of nature and people.

Recovery of the marine environment along the Sussex coastline is a local imperative and is being championed by pioneering initiatives such as Sussex Bay and the Sussex Kelp Recovery Project. Yet success, especially in safeguarding the health and functioning of our harbours, estuaries and seas, relies on actions inland and a sustained commitment to a source-to-sea approach.

Our strategy aims to help this by:

- Reflecting the importance of the marine environment to West Sussex and its interdependence with our land, freshwater and coastal systems.
- Including actions to support recovery of coastal and intertidal habitats and species.
- Mapping and prioritising catchment actions that improve water quality and flow resilience (e.g. floodplain reconnection, river renaturalisation, natural flood management), benefiting wetlands, rivers, aquifers, estuaries and the sea.
- Supporting the work of key stakeholders such as Catchment Partnerships and the Environment Agency and with an understanding of the wider aims of existing relevant strategies such as Catchment Management Plans and River Basin Management Plans.

◊ **Mean Low Water Spring**
The average heights of two successive low waters during those periods of 24 hours (approximately once a fortnight) when the range of the tide is greatest.

Note: The LNRS cannot regulate pollution, development or agricultural practices as these fall under other regulatory mechanisms covering the terrestrial and marine environment. The LNRS will complement them by identifying where nature-based actions across catchments can most effectively support systemwide recovery.

Principle 5.

Showcase and support action for nature across our farmed landscapes.

About two thirds of the landscape of the LNRS area is farmed. Farming and woodland management has been shaping the countryside for centuries, creating and maintaining many of our most valued habitats. However, changes in agricultural policy and practices over decades put pressure on nature and the wider environment. Policies in the post-war period led to significant land-use changes, with the removal of hedgerows and lower-input grasslands to make way for greater food production. Today, practices such as widespread use of pesticides continues to put pressure on species and pollinators, while addition of nutrients to the land works alongside climate change to result in significant impacts to water courses from diffuse agricultural pollution.

However, many farms and estates across West Sussex invest in nature on their land and have done for generations. They see this as an integral part of their purpose and business. This is despite ongoing changes to government agri-environment policy and lack of certainty about what this will look like in the future. Farmer clusters and landscape recovery initiatives bring landowners and managers together to collaborate for nature across their combined larger areas and funding schemes such as 'Farming in Protected Landscapes' have been popular with farmers in the South Downs and High Weald. Projects to support our 'farmland specialist' species, such as turtle dove and grey partridge, are assisting farmers to provide the specific habitats these species require. The use of regenerative farming practices that improve soil and water as well as the nutrient density of food are also becoming more commonplace.

However, many other landowners and managers (especially those running small, family farms) are working at capacity to merely stay in business. Many want to be more proactive in supporting wildlife, but do not have the time or expertise to engage with complex land management schemes. Additionally, an increasingly unpredictable climate which gave us very wet conditions in 2023 and 2024 and drought in 2022 and 2025, further challenge the stability of farm incomes.

Achieving more nature across our farmed landscape and a reduction in its impacts on the wider environment will require support for farmers and landowners, primarily through funding, advice and agricultural policy. Much of this lies outside the scope of an LNRS but much more can be done locally to provide information on the actions that can be implemented by farmers and landowners and how these can play a key role in supporting the nature we have in West Sussex. More can also be done to showcase the many positive actions taken by farmers and landowners across the LNRS area and widen engagement to others who may need additional encouragement and support to get involved.

Our strategy aims to help this by:

- Identifying the priorities for nature's recovery in West Sussex that can be delivered across our farmed landscapes and how these can be achieved in practice.
- Reflecting existing and future ambitions for nature held by estates, farms, farmer clusters and other farmer-led initiatives, thus supporting them in their bids for funding and support.
- Identifying where nature-based solutions (which may attract specific funding for farmers and landowners) could best be located to help address wider environmental issues. (See Principle 7).

Principle 6.

Support species special to West Sussex.

West Sussex is home to many species of conservation concern. Some of these are particularly important in a national, and in some cases, international context. This may be because we provide a stronghold for a species found in smaller numbers elsewhere or host remaining populations of species on the brink of extinction. We also see species in West Sussex at the very edge of their geographical range, which are particularly vulnerable to changes in climate.

All species are dependent on the habitats found here, their extent, condition and spatial distribution. All are vulnerable to loss and degradation of habitats and so creating a network of bigger, better, more and joined-up wildlife rich spaces across our landscapes (see Principle 2) will go a long way to support their future presence in the LNRS area. But for those species of national or international importance, or those with very specific habitat requirements, we have additional responsibilities to secure their future, beyond general habitat enhancement and creation. This will require specific interventions to provide habitat in areas of importance for these species. It is important that we know what these species need and how best to provide it if their future is to be secured.

Some species are indicators of general habitat health, and by focusing on actions which will support them, widen their distribution and inch them towards healthy population numbers, we will know that their habitats are in good health and are supporting other species. The Adonis blue butterfly, found on chalk grassland on the South Downs, and the hazel dormouse found in our woodland, are both indicators – telling us that we have sufficient habitat of good enough quality to support them and therefore a range of other species typical of these habitats. It is therefore important that we understand the key indicator species that we have in the LNRS area and what is happening to their populations. Action must then be tailored to supporting these species and tracking progress. Only then will we understand how well our actions to improve and create habitats are actually supporting the wildlife that depends on them

Finally, across the LNRS area and particularly in our urban and peri-urban areas a range of charismatic and visible species live alongside people. Some, like the fox, are thriving in these habitats, whilst others such as the hedgehog and swift are struggling due to habitat change and loss. Many of these species respond well to actions that communities and individuals can take in their houses, gardens, schools and local parks. These species can be adopted as ‘champions’, helping to enhance the connection people have to nature ‘nearby’ and providing opportunities to raise awareness and understanding of the importance of individual action in making nature’s recovery happen.

Our strategy aims to help this by:

- Providing, for the first time in West Sussex, a consolidation of our knowledge and understanding of our most important species, their population numbers, distribution, trends and habitat needs.
- Identifying the actions that can be taken to provide very specific habitat interventions required by species to support their recovery, particularly those of national and international importance.
- Identifying the further surveys and research needed to better understand our species and their needs and guide suitable future interventions.

Principle 7.

Invest in and use nature to deliver wider benefits where we need them.

Nature-based Solutions (NbS) are actions that use nature and the natural functions of habitats and ecosystems to tackle issues such as flooding, coastal erosion, poor water quality, drought, rising urban temperatures and carbon storage. In some places they can also be used directly to improve a local environment and provide more access and connection to nature, which is so important for health and wellbeing.

Using nature in this way is a 'win-win', helping to tackle issues while supporting nature and wildlife through the creation of habitats. NbS also bring more funding sources into nature recovery, for example, funds for tackling flooding can help to create wetlands as part of a flood reduction project. Climate adaptation funds for towns and cities will be a particularly important source of funds for creating new habitats and planting trees in our urban areas. In West Sussex, there is a great interest in finding ways to support NbS research and development, particularly for habitats in coastal and marine environments and the multiple benefits these can provide. Innovative approaches to 'green financing' for these sorts of projects is also highlighting new ways to attract funding and investment.

A key challenge is to know where and how to use a nature-based approach to deliver the required outcomes. Work is going on within Catchment Partnerships, government agencies and water companies across West Sussex to help to answer this question. A key principle for all NbS projects is that they must not have negative consequences for nature and inadvertently destroy or damage the environment, habitat or ecological function. For example, a tree planting project to store more carbon should not be located where it could damage or destroy other types of valuable habitat such as species-rich grassland. A 'biodiversity double-lock' principle was introduced in 2019 by the Sussex Nature Partnership to guard against this, and ensure that where NbS are used in Sussex, they are implemented in a way and in a location that provides positive benefits for nature.

Adur River Recovery is an ambitious land manager-led project to revitalise and restore one of the biggest rivers in West Sussex to improve water quality and biodiversity.

Our strategy aims to help this by:

- Reflecting a consensus on where and how NbS can play a role in delivering wider environmental benefits in West Sussex and engaging a wider range of stakeholders in these decisions.
- Specifying how and where NbS can be used effectively – and what benefit to nature they can also help to support (ensuring the 'win win').
- Identifying precautions that may need to be taken when considering the application of NbS in particularly fragile environments.

Principle 8.

Bring nature into everyday life, providing places for people to benefit from and engage with nature.

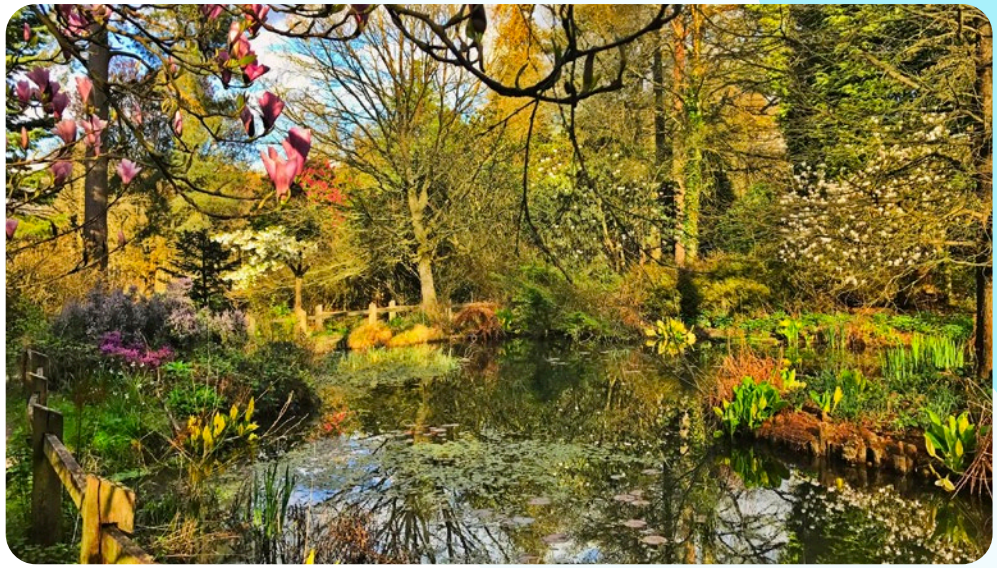
Spending time in nature has a proven positive impact on our health and wellbeing. Repairing the connection between people and nature is also vital to ensure wider support for nature and the types of decisions needed to achieve its recovery.

There are many other benefits to having nature-rich greenspaces in our neighbourhoods, from creating attractive spaces that enhance social cohesion to flood risk reduction and urban cooling. Natural England has developed 'Accessible Greenspace Standards' (AGS) to provide a guide for local planners, developers and communities. This recommends that *"everyone has access to good quality green and blue spaces... within 15 minutes' walk from home"*. However. in many parts of West Sussex, there is an acknowledged 'nature deficit', where this standard is not met. These areas where the provision of more areas of natural greenspace should be prioritised.

However, it is acknowledged that bringing more nature into urban areas can be challenging for many reasons, such as pressure on land and reduced budgets for local authorities. Natural verges and areas of grassland in public greenspaces left wild are valuable for wildlife, but may be perceived messy and unmanaged by some. Accessing nature in rural areas can also be difficult due to fewer greenspaces and poor provision or maintenance of footpath networks. Options for creating new opportunities may also be limited by funding and availability of land. Greater success across the board will be based in identifying practical, achievable local opportunities, that are ideally community-led.

Our strategy aims to help this by:

- Emphasising that provision of greenspace should be prioritised where there is a 'nature deficit' and where provision of more greenspace is advised to meet the Accessible Greenspace Standards (e.g. within a 15-minute walk).
- Identifying options for enhancing existing greenspaces that can be taken forward by local authorities, town and parish councils and local community groups so they are more valuable for wildlife and people.
- Developing ideas for the creation and improvement of green and blue corridors to support nature, whilst better connecting people to natural areas within walking distance of their homes.
- Reflecting the ambition of communities and residents across West Sussex to take action for nature in their gardens and neighbourhoods.



Tilgate Park springs, Crawley © iStock.com/MiPhone_Pictures

Section 4.

Priorities & Measures

Conducting water vole surveys on the River Ems, a flagship chalk stream.

At the heart of each LNRS are the collaboratively produced and locally agreed **priorities** for nature's recovery (what we want to achieve) and the actions called **measures** that if implemented on the ground, can bring them about.

Through a comprehensive and rigorous process, **24 habitat priorities** for nature recovery in the West Sussex LNRS area were prioritised from a longlist gathered through research and engagement with local people, organisations and groups (see the below four sources).

To deliver these priorities, **108 core measures** have been developed and refined with the help of local nature and land management experts. Some measures fall outside the scope of the LNRS but are still considered essential for empowering organisations involved in nature recovery and support the delivery of core measures. These have been included as **enabling measures**.

For more information on how the priorities and measures were identified, see Part 4.

Four sources of data have informed these priorities and measures:

- **Ecological evidence.** Data on the condition, extent, pressures and opportunities related to habitats and species in the West Sussex LNRS area was gathered and analysed. This information is summarised in the Statement of Biodiversity Priorities Part 1.
- **Existing published priorities.** A comprehensive review of published plans and strategies related to West Sussex (such as Local Plans, Neighbourhood Plans, Catchment Management Plans and others) was undertaken to identify existing nature-based priorities.
- **Views of local people.** We invited residents, community groups and land managers to tell us about the most important environmental issues to them through surveys and workshops. A summary of public survey results can be found in the Statement of Biodiversity Priorities Part 1, with more detail in Part 4.
- **Environmental and land management expertise.** 40 of the key delivery and enabling organisations for nature in the LNRS area refined priorities and developed measures through a series of all-day workshops and by adding their comments to drafts. Leading local and national species experts meticulously collated and reviewed species priorities.

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

Priorities for nature's recovery – Summary Table

Table 1: Priorities for nature's recovery in West Sussex

Details of the actions (measures) that together can help achieve these are shown in the following section.

Coastal Habitats

C1. Support the expansion, restoration, enhancement and creation of coastal and intertidal habitats.

Farmed Landscape & Soils

FL1. Create and enhance opportunities for wildlife within the farmed landscape.

SL1. Enhance soil habitats and their health to support biodiversity and improve ecosystem services.

Species-rich Grasslands

G1. Restore, expand, connect and enhance species-rich grasslands.

Woodland, Hedgerows & Scrub

W1. Enhance our existing woodland habitats*, improving quality and ecological diversity of habitats, structural diversity and resilience.

W2. Create new woodland where this supports connectivity, biodiversity, ecosystem services and landscape character.

W3. Enhance and expand our urban treescapes, taking opportunities to establish new urban (and urban fringe) woodland and street trees where this will support biodiversity and deliver multiple benefits.

Hdg1. Enhance, expand, restore and connect our network of hedgerows.

Scr1. Create and enhance scrub habitats, as edge habitat, as part of habitat mosaics and as a habitat in its own right.

Lowland Heathland & Sandstone Outcrops

H1. Expand, enhance and better connect lowland heathland and associated habitats.

SO1. (Sandstone outcrops). Enhance the unique biodiversity of the sandstone outcrops of the High Weald.

Rivers, Streams & Aquifers

R1. (Rivers and river systems). Support the recovery of our rivers and river systems*, their health, biodiversity and natural functions.

R2. (Chalk streams). Support the recovery and resilience of our chalk streams and their unique biodiversity.

A1. (Aquifers). Support the health and function of our aquifers.

Wetlands & Standing Water Bodies

Wt1. (Wetland habitats). Restore and enhance our existing wetland habitats* and create new wetlands particularly where this will expand and connect existing sites.

SWB1. (Standing water bodies – Reservoirs, lakes, ponds and ditches). Restore and enhance existing standing water bodies and create new standing water body habitat for biodiversity and other benefits.

Urban Nature

U1. Create and connect new nature-rich areas within our villages, towns and cities, for the benefit of wildlife and people.

U2. Enhance the value for nature of existing parks, buildings and other blue/green spaces.

Nature Networks: Protected sites, wildlife corridors & more habitat for wildlife

PS1. Support the expansion and enhancement of a network of protected sites.

Cor1. Enable landscape recovery at scale across landscapes and large-scale nature corridors where this supports biodiversity, ecosystem services and landscape character.

Cor2. Safeguard and enhance the value of existing green and blue corridors for nature and create new corridors and stepping stones of habitat where this will improve connectivity between habitats and between rural and urban green spaces.

Cor3. Enhance transport corridors, verges, historic routeways and footpath networks for wildlife

MH1. Create new areas of mixed habitats or habitat mosaics (of habitat types prioritised within the LNRS) to expand the area of high quality wildlife habitat across the nature network.

Nature, Health & Wellbeing

NH1. Create new areas of natural greenspace designed and located to deliver benefits for health and wellbeing while enhancing biodiversity.

Definitions

Priorities	High level statements of what the LNRS should strive to achieve for nature recovery in West Sussex LNRS area within its timeframe.
'What does success in 10 years look like' statements	These provide detail of what delivery of the priority should look like within a 10 year timeframe to be considered successful. In most cases, this will require the implementation of both the core measures and enabling measures listed for each priority (see below).
Core habitat measures	Actions 'on the ground' that are required to deliver the priorities and outcomes identified for nature's recovery in the West Sussex LNRS area. These are the main focus of the LNRS as required by statutory guidance. Each measure is supported by notes on **'How'** (the techniques that could be used to deliver each measure (which in many cases will vary depending on the specific characteristics of a site), and **'Where'** – where they could be targeted to deliver greatest benefit. This is particularly important for measures that could not be mapped, either because of insufficient data, or because they could be implemented anywhere with similar benefits. MAGIC maps include a range of national data on habitats, geology and soil, flood zones etc which may be helpful in identifying areas for beneficial implementation of measures. Links to **further information/guidance** and local case studies are also provided[1]. Further information includes references to best practice on habitat management where available. It is expected that all habitat management should give due regard to the potential for protected species and follow best practice guidance.
Enabling Measures	These are actions that, while not directly focused on habitats or species, play a vital supporting role in delivering the core objectives of Local Nature Recovery Strategies (LNRS). Because they fall outside the statutory scope of the LNRS, they are not the responsibility of the designated Responsible Authorities. However, stakeholders identified these measures as essential for empowering the broader network of organisations involved in nature recovery across West Sussex. By strengthening the mechanisms, processes, and functions that underpin core measures, enabling measures help facilitate the overall success of the LNRS. For this reason, they are included alongside core measures as prompts for wider, collaborative efforts.
Priority species	The LNRS has identified a suite of species to target for nature recovery. These are species for which West Sussex is particularly important. Some have their own bespoke measures, and some have been grouped together into assemblages of species which share similar management requirements. The full species lists and targeted measures are presented in **Part 3** of the LNRS. The species and assemblages that are likely to benefit from our habitat measures have been incorporated into the relevant habitat sections that follow.
Mapped/not mapped	This indicates whether the measure has been mapped on the 'measures map' which follows this section. At the request of Natural England, measures have not been mapped within nationally designated sites (SSSIs and NNRs), with the exception of measures to enhance existing habitats within internationally designated sites. See note in section 5.2 for further information.

Important Caveats

Some measures may require specific consents or licences from a relevant regulatory body such as the Forestry Commission, Environment Agency, Natural England or the Marine Management Organisation (the licensing authority for marine activities). Habitat improvements within nationally designated sites are subject to legal agreements between landowners and Natural England. The measures proposed within the LNRS that are mapped within designated sites sit alongside the legal requirements associated with these sites and do not override them, replace existing management agreements, or negate the need for any requisite consents or approvals. All activities should be checked with relevant regulatory bodies to ensure required permissions are in place before commencement.

1 Links to further information, guidance and case studies were correct at time of publication. Where a SFI or CSHT funding option has been identified, please note these are guideline only, not exhaustive and may go out of date. Check what is suitable for your land with your advisors.

Delivery of multiple benefits through 'nature-based solutions'

Enhancement or creation of any habitat will support our natural capital and help to deliver wider environmental benefits by strengthening their natural functions.

Most of the measures set out in the LNRS are primarily concerned with supporting biodiversity but will also provide some secondary benefits for air, water, flood risk reduction and so on.

However, some measures are specifically included within the LNRS due to their role as **'nature-based solutions'** that can be used to tackle particular environmental problems, using approaches that also support nature. These may have their own funding streams through government schemes, water company funding, climate adaptation and mitigation approaches and so on. The icons on the following page (borrowed from the Defra Environmental Improvement Plan (2023)) are used throughout this document to identify those measures that have a specific role to play as nature-based solutions and thus may be supported by funding streams of this type.

Note: all core measures carry the icon for 'thriving plants and wildlife' indicating that they all support nature and the government's 'apex goal' to halt the decline in biodiversity and move towards nature's recovery.

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

Icons identify those measures that have a specific role to play as nature-based solutions

Icon	Theme	Explanation
	**Thriving plants & wildlife**	All measures that support habitat and/or species enhancement, restoration or creation.
	**Clean Air**	Measures where habitat creation can help to improve air quality. Particularly relevant in urban areas and along transport corridors.
	**Clean and Plentiful Water**	Measures that help to filter/purify water. Applies to both water supply that may come from rivers or aquifers (ground water) and a clean water environment and sufficient water flows to support biodiversity.
	**Managing exposure to chemicals and pesticides**	Measures that support the reduced use of chemicals. These will have benefits to both nature and people.
	**Using resources from nature sustainably**	Measures that relate to sustainable management of our land, woodland and soils.
	**Mitigating and adapting to climate change**	**Climate change mitigation:** measures where the enhancement or creation of habitat will support greater carbon storage and sequestration. Those habitats with the greatest potential for this include: soils, woodland, hedgerows, grasslands, peatland, saltmarsh and seagrass **Climate change adaptation:** measures which help society to adapt better to climate-related change such as flood risk, reduced water flows/supply and rising urban temperatures. **Note:** all measures will support the resilience of habitats and species to climate related change and support their adaptation. Those that increase habitat size or create corridors/steeping stones will specifically support the ability of wildlife to move through the landscape in response to climate change. These have not specifically been given an icon but this role is assumed.
	**Reduced risk of harm from environmental hazards**	Measures that support the reduction of flood risk, coastal erosion and soil erosion. There is some overlap with the climate change theme above.
	**Enhancing biosecurity**	Measures that relate to the removal/ control of invasive non-native species, tackling and improving resilience to pests and diseases affecting plants/animals.
	**Enhancing beauty, heritage and engagement with the natural environment**	All measures have the potential to support landscape and heritage. Therefore this icon is used to identify those that will make a contribution to enhancing access to/connection with nature – which is focused primarily on greenspaces, new woodland creation, green/blue corridors and so on.

Coastal Habitats

Vegetated shingle, Shoreham Beach
© Ben Rainbow

COASTAL HABITATS

Priority: C1

Support the expansion, restoration, enhancement and creation of coastal and intertidal habitats

What does success in 10 years look like?

- The condition, connectivity and resilience of our most fragile coastal habitats* is improving through management, expansion and buffering of fragments and creation of new habitat where conditions are suitable and feasible.

- Migration of those habitats most vulnerable to loss through sea-level rise and coastal squeeze is being achieved through habitat creation where conditions and methodologies allow. Specific progress in the creation of new areas of saltmarsh and coastal floodplain grazing marsh is most notable.

- Pressures on the natural environment of our harbours and estuaries and their associated coastal and intertidal habitats and species from upstream diffuse inputs from land to sea have been reduced via 'nature-based solutions' and land and marine-based actions. 'Source to sea' approaches are playing a role in tackling impacts on coastal environments and habitats which originate on land, across catchments. In particular, the water quality of our harbours, inlets and coastal protected areas is improving, with the condition of affected coastal designated sites moving from unfavourable/declining to recovering condition as a result.

- The implementation of flood and coastal erosion risk management infrastructure is delivering positive benefits for nature, particularly where nature-based approaches such as managed realignment projects have been possible and successful. The design of future coastal flood defence schemes is incorporating measures to support recovery of coastal habitats.

Sand dunes at East Head, West Wittering Beach.

***Coastal and marine habitats identified as 'at risk' by Sussex Nature Partnership include sand dunes, saltmarsh, coastal vegetated shingle, saline lagoons, intertidal kelp, seagrass, mudflats, coastal grazing marsh, oyster reefs, mussel beds, maritime cliff and slope, and chalk reefs.**

- Where areas of coastal habitat are at significant risk from sea level rise and coastal squeeze, statutory bodies have led decision-making and delivery processes enabling nature recovery, particularly where habitat loss and degradation of designated sites may result.

- Larger contiguous areas of coastal and intertidal habitats have been created in some areas (e.g. saltmarsh, mudflats and coastal grazing marsh) and are delivering a range of ecosystem services. These include a reduction in coastal flood risk and erosion, as well as improved carbon storage, bioremediation (use of habitats to absorb excess nutrients), healthy inshore waters and nursery areas for fish and other marine wildlife.

- Sensitive coastal sites are being buffered from encroaching development.

- Visitor management approaches are reducing the impacts of visitors on coastal habitats, as well as breeding birds and other species, and may have resulted in the creation of alternative sites or visitor opportunities to take pressure off the most sensitive and important areas.

- Achievement of the above is being facilitated through a collaborative approach to the recovery of habitats and species across marine, coastal and terrestrial ecosystems. The Sussex Bay 'Seascape Blueprint for research and recovery' (to be published in 2026) is guiding this work by providing an evidence-led approach to delivery of habitats and species within the coastal and marine environments of West Sussex. On the ground delivery is being led by multi-partner coastal programmes such as the Three Harbours Strategy (Reimagine, Reverse, Restore) and the Solent Seascape Project.

Newly hatched Common Tern chicks on the Chichester Harbour Tern Rafts.
© Chichester Harbour

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
C1.1	**Retain existing and re-create additional naturally functioning shorelines where appropriate, supporting the creation and increased connectivity of coastal and intertidal habitat and delivery of additional ecosystem services.** **Mapped**	No active intervention (allow natural processes to continue); managed realignment (this may involve removal of redundant coastal defence structures or coastal defence structures where dwellings or infrastructure are not at risk of flooding; encouragement of sedimentation on existing marshes/ mudflats etc).	Areas identified under policies of 'managed realignment' and 'no further intervention' in Shoreline Management Plans; areas identified by Environment Agency and catchment partnerships as suitable for future proposals.	HM Gov. Shoreline Management Plan. Beachy Head to Selsey Bill (SMP12) **Local case studies:** Nature-based solutions knowledge hub: Medmerry project for intertidal restoration habitat restoration with managed coastal realignment Solent Seascape Project: Habitat Restoration & Protection
C1.2	**Restore and enhance existing areas of intertidal saltmarsh and mudflats.** **Mapped**	Restoration of existing sites via grazing; cutting; protection from erosion.	Existing areas of intertidal saltmarsh and mudflat.	Catchment Based Approach: Saltmarsh Restoration Handbook and Restoring Estuarine and Coastal Habitats with Dredged Sediment CSHT option: CCT3: Manage coastal saltmarsh and its vegetation **Local case studies:** Chichester Harbour Conservancy: Saltmarsh Restoration Trial Project – West Itchenor; Apuldram Meadow. Solent Seascape Project: Habitat Restoration & Protection

Code	Measures	How	Where	Further info/guidance
C1.3	**Create new areas of intertidal saltmarsh and mudflat, in locations where it is likely to be resilient to future climate pressures.** **Mapped**	Creation of new saltmarsh requires inundation of land by tidal waters. Approaches used may involve managed realignment; regulated tidal exchange; water management; re-use of dredged material etc. The aim is to ensure 'migration' of this habitat to areas with less risk from sea level rise. This may have impacts on other habitats present on candidate sites which must be taken into consideration.	Areas where conditions are suitable for habitat creation and longevity (i.e. with future impacts of climate change/sea level rise in mind). Suitable locations for saltmarsh creation may include **tidal reaches of rivers** as these provide space for estuarine habitat types under threat from sea level rise to 'migrate' inland (upstream). Saltmarsh creation is therefore also included as an option under measure R1.1 i.e. within areas of the floodplain where conditions may be suitable due to tidal inundation *(See R1.1 'Renaturalise' and reconnect rivers to their floodplains, allowing water to spill naturally onto adjacent land and restoring, expanding and better connecting floodplain habitats).*	Catchment Based Approach: Marine and coastal habitat restoration principles and Saltmarsh Restoration Handbook CSHT option: CCT2: Make space for new coastal habitat **Local case studies:** National Trust: Medmerry managed realignment project

Curlew ©iStock.com/CreativeNature_nl

Code	Measures	How	Where	Further info/guidance
C1.4	**Enhance existing coastal vegetated shingle habitats and create new areas, primarily through expansion of existing sites.** **Mapped**	These will be site dependent but may include: control of invasive non-native species; reduction of disturbance from shingle excavation or recreational pressure (e.g. fencing/visitor management, education and interpretation); non-intervention management; retention of tide-swept debris; prevention of scrub encroachment; enhancement of adjacent supporting habitats etc. Expansion/creation of new areas can be facilitated by shingle profiling to create microhabitats; recolonisation or planting; protection from recreational pressure and future shingle excavation.	Existing sites for enhancement and expansion where conditions will support this. e.g. where new vegetation is likely to survive pressures from recreation, coastal processes etc; seek opportunities within coastal defence projects.	Buglife: Coastal vegetated shingle Catchment Based Approach: Restoring Estuarine and Coastal Habitats with Dredged Sediment Nature After Minerals (NAM): Coastal Vegetated Shingle CSHT option: CCT9: Manage and restore coastal vegetated shingle **Local case studies:** Chichester Harbour Conservancy: Strakes Island shingle recharge – part of the Return of the Tern project
C1.5	**Enhance existing areas of intertidal seagrass and create new areas primarily through expansion of existing sites*.** *(*Note: Seagrass and other habitats within the marine zone below the mean low water mark are not covered by the LNRS.)* **Unmapped**	Removal of invasive non-native species (INNS), management of bait digging and hand gathering, boat management practices etc. Success may rely on improvement of water quality and reduction in pollution (beyond the scope of the LNRS). Establishment of new areas should follow best practice techniques which may include replanting/reseeding depending on site conditions.	Existing areas of inter tidal seagrass; areas identified in MMO 1135 Potential seagrass restoration. *Environment Agency* – seagrass potential.	Catchment Based Approach: Seagrass Restoration Handbook LIFE Recreation ReMEDIES (a five-year marine conservation partnership): (website) Solent Seascape Project: Seagrass Project Seagrass: (website)

Code	Measures	How	Where	Further info/guidance
C1.6	**Enhance existing coastal lagoons*, providing optimal environmental conditions for aquatic life.** *(*These may be saline, brackish or freshwater depending on level of salinity.)* **Mapped**	Monitoring and control of salinity levels; management of water levels; reduction of disturbance; creation/enhancement of marginal habitats; improvement of water quality through reduction of pollution (beyond the scope of the LNRS) etc.	All coastal lagoons.	Solent Forum: Saline Lagoons **Local case studies:** Institution of Civil Engineers (ICE): Managed Realignment at Medmerry, Sussex National Trust: Medmerry Nature Reserve
C1.7	**Create new coastal lagoons*, to connect wetland habitats and compensate for those lost due to pressures such as climate change.** *(*These can be saline, brackish or freshwater depending on level of salinity.)* **Unmapped**	Land-forming to create lagoon areas; natural dispersal of species; natural coastal processes as part of managed realignment projects.	In transitional areas that are likely to flood and where possible pressures from recreation/ disturbance are low; creation of new coastal lagoons within managed realignment projects; locations where this will support specific species and form part of a wider mosaic of connected wetland habitats. May form part of response to loss of coastal habitats to sea level rise.	Nature After Minerals (NAM): Saline lagoons CSHT option: CCT4: Create intertidal and saline habitat on arable land **Local case studies:** Institution of Civil Engineers (ICE): Managed Realignment at Medmerry, Sussex National Trust: Medmerry Nature Reserve

Code	Measures	How	Where	Further info/guidance
C1.8	**Enhance the condition of existing sand dune habitats.** **Mapped** 	Dune stabilisation; removal and control of INNS; reduction of disturbance, trampling and erosion via visitor management etc.	All sand dunes sites.	Natural England: The Sand Dune Managers Handbook (2nd edition) CSHT option: CCT8: Manage and restore coastal sand dunes **Local case studies:** Chichester Harbour Conservancy: Sand Dunes of East Head
C1.9	**Restore native oyster habitat.** **Unmapped** 	Creating suitable conditions for growth of native oysters.	Areas identified as suitable via Blue Marine research and mapping data. In West Sussex, suitable sites within boundary of the LNRS are limited to known historic aquiculture sites within Chichester Harbour (with others offshore lying outside the formal LNRS boundary).	Catchment Based Approach: European Native Oyster Restoration Handbook **Local case studies:** Blue Marine Foundation: Solent Oyster Restoration Project
C1.10	**Reduce impacts on coastal wildlife caused by coastal leisure and recreational activities on land and water as a key component of species recovery efforts.** **Unmapped** 	Management of recreational use in and around fragile coastal habitats and key sites for coastal wildlife (such as wildfowl, waders, terns, brent geese); management of leisure activities (including dog walking) where this is a cause of wildlife disturbance.	Areas/sites of coastal habitat where wildlife is vulnerable to visitor pressure.	**Local case studies:** Solent Recreation Mitigation Partnership: Solent Recreation Mitigation Strategy Solent Seascape Project: Oyster Reef Restoration & Protection

Other core measures overlap directly with this priority and will contribute to its delivery:

WOODLAND

W1.13 Enhance existing areas of coastal woodland in Chichester Harbour.

W2.6 Increase extent of coastal woodland in Chichester Harbour through expansion of existing areas of woodland.

RIVERS, STREAMS & AQUIFERS

R1.1 'Renaturalise' and reconnect rivers to their floodplains, allowing water to spill naturally onto adjacent land and restoring, expanding and better connecting floodplain habitats (such as wet grassland, fen, marsh and wet woodland). This will support biodiversity, increase ground water recharge and provide flood attenuation. [Note that in tidal reaches of rivers, this measure may include creation of saltmarsh where conditions are suitable.]

WETLAND AND STANDING WATER BODIES

Wt1.4 Manage existing areas of floodplain grazing marsh (including coastal floodplain grazing marsh) to enhance the ecological condition of its mosaic of habitats and ditches.

URBAN NATURE

U2.1 Increase the area of habitat created and managed for nature within existing green spaces, such as parks, recreation grounds, allotments, golf courses, foreshore, public gardens, shared spaces (flats/housing association land), hospitals, prisons etc. *(Where located along the coast, these urban spaces may have a role to play in enhancing/creating coastal habitats while also providing public access. This will be very site specific.)*

More generally, measures within **Rivers, Streams & Aquifers** section intended to enhance water quality within catchments, will also support the coastal and marine environment of West Sussex. Similarly, measures within protected sites will be relevant to many coastal habitats, given the high proportion of these sites that site within or in the proximity of protected sites such as SSSIs, SACs/SPAs, Ramsar Sites and Local Wildlife Sites (see **Nature Networks** section).

Code	Enabling Measures
C1.11 (EM)	Establish a consolidated inventory/map of opportunities for adaptive coastal management, bringing together the range of existing datasets, to help target action to mitigate sea level rise/coastal squeeze.
C1.12 (EM)	Research and understand the barriers to recovery of intertidal habitats and communities e.g. intertidal kelp, seagrass, chalk platforms.
C1.13 (EM)	Guidance, awareness raising and community support to reduce the impact of garden escapes on coastal vegetated shingle communities.
C1.14 (EM)	Develop the 'Seascape Blueprint' for Sussex Bay to highlight areas of opportunity for the marine and coastal environment, explore enhanced connectivity, set priorities for the future and expose overarching pressures to maximise ecosystem service delivery.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Harbour seal	C1.2, C1.3, C1.10
Dark-bellied brent goose	C1.5, C1.10
White-tailed eagle	C1.1, C1.9, C1.10
Common oyster	C1.9
Defolin's lagoon snail	C1.6, C1.7
Lagoon spire snail	C1.6, C1.7
Looping snail	C1.4

Priority assemblages of species	Measures that would be beneficial
Breeding waders – wet grassland & heathland assemblage	C1.2, C1.3, C1.10
Coastal grazing marsh & upper saltmarsh assemblage	C1.1, C1.2, C1.3
Shingle & sand dune assemblage	C1.1, C1.4, C1.8, C1.10
Breeding & migrating/winter shore birds assemblage	C1.2, C1.3, C1.4, C1.6, C1.7, C1.10

Farmed Landscape & Soils

Arun Valley © Ben Rainbow

FARMED LANDSCAPE & SOILS

Priority: FL1

Create and enhance opportunities for wildlife within the farmed landscape

What does success in 10 years look like?

(These are in addition to statements noted under other habitat groups which apply to farmland e.g. grassland, woodland, hedges and heathland, freshwater and soils.)

- Our species-rich grassland habitats that have been created by (and rely on) traditional farming practices, are improving in quality and extent through suitable management and understanding of their quality (see **Species-rich Grassland** section below).

Farmland, West Trundle Hill. © Don Baker

- Species-rich and more structurally diverse grass buffer strips and plots in fields are providing new areas of habitat for wildlife, supporting invertebrates (including pollinators) and creating linkages/corridors between other habitats. These buffers and plots are of a size that is appropriate to the landscape and field size.

- Nature friendly farming approaches are creating features and habitats for wildlife such as hedgerows, riparian buffer strips and species-rich field boundaries, supporting nature whilst also contributing to wider environmental quality by capturing nutrients, storing carbon, slowing the flow of water in the landscape etc. These habitat interventions are being supported by farming practices which are also focused on minimising impacts on the wider environment such as soil erosion and diffuse pollution across catchments, improved carbon storage in soils etc.

- In-field trees (including veteran trees and groups of trees) are being protected from agricultural operations and maintained/replaced/restored as landscape features where possible to support biodiversity including invertebrates, mosses, lichens and birds. Natural regeneration is enabled, or planting is done to produce veteran trees for the future and to create connectivity between lone trees.

- Appropriate (nature friendly/climate resistant) agro-forestry species and scrub are being used in places to provide shelter and shade for livestock, support biodiversity and deliver other benefits such as improved water quality, reduced flood risk and carbon sequestration.

- Hedges are enhanced and gapped up, and hedgerow trees planted to ensure they have good structural diversity. New hedges are being established on farmland to improve the connectivity of hedgerows across the landscape.

- Ditches on farmland are managed sensitively to protect existing species and water levels are maintained where possible to enhance biodiversity.

- Farmland bird species (e.g. skylark, stone curlew, corn bunting, grey partridge and turtle dove) are being supported through the retention of important habitat and enhancement and creation of other habitats specific to their needs across the farmed landscape. The abundance and range of target species is increasing.

- Rare arable plant species are present and increasing in their range and number of sites through appropriate management (e.g. reduced use of pesticides, leaving areas of uncultivated fallow ground etc).

Enabled (by government, protected landscapes, farming and conservation organisations):

- Farmers and landowners across West Sussex are engaging with support, advice and funding options available to enable them to carry out nature recovery actions.

- More farmers are implementing nature friendly and/or regenerative farming practices, delivering benefits for nature, soil and the wider environment alongside more sustainable food production.

- The network of farmers working together locally through farmer clusters, nature recovery partnerships or projects has grown and is playing a critical role in delivering for nature alongside sustainable food production, both on their own land and collectively at a larger scale.

- Farm and land-based business are on a positive trend towards economic and environmental sustainability, with nature-based solutions and the establishment of habitat banks for biodiversity net gain forming part of their farm business model. Successes and progress in achieving greater sustainability and contributing to delivery of Local Nature Recovery Strategies are acknowledged.

Farmland © Diana Alcroft

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
FL1.1	**Create *permanent*, species-rich and/or structurally diverse grass blocks, strips, margins or headlands to support pollinators and other wildlife.** **Unmapped** 	Creation of permanent grassland blocks, margins, headlands and strips with species and structural diversity. Suitable techniques will depend on whether these are being created on arable land or pasture. On arable, techniques can include seeding, mowing (including removal of arisings). On pasture, techniques are more likely to involve grazing regimes (e.g. mob grazing).	This is good practice across farmland but particularly where greater habitat connectivity is needed and/or to support specific species. Concentrate on connecting these strips, blocks and headlands across land holdings to support larger scale connectivity. Size of buffers, margins, blocks etc, should be sufficient to provide ecological benefit but of a scale that is suitable for the landscape and field size.	Kent Wildlife Trust: Managing field margins for wildlife Agricology: Field margins, hedgerows, woodland and scrub SFI option: CIPM2 Flower-rich grass margins, blocks or in-field strips **Local case studies:** South Downs Farmland Bird Initiative: (storymap) Game and Wildlife Conservation Trust: The Sussex Study: Grey partridge in the Sussex Downs The Peppering Project (Grey Partridge on the Norfolk Estate): (Website)

Code	Measures	How	Where	Further info/guidance
FL1.2	**Create new areas of cultivated fallow ground for arable plants and farmland birds and ensure that the overall area is maintained, even if individual plots are rotated through the landscape.** **Unmapped**	Creation of fallow margins or plots in spring or autumn; to provide vegetative cover throughout the growing season. No application of fertiliser or manure. The key is to encourage native plants within the seedbed to grow (rather than to plant seed). Site selection is therefore key in order to find locations with a rich seed bank (ideally in areas previously cultivated for up to 100 years).	Arable land, particularly on sandy or chalky soils. Likely to be best on edges and margins with rest of the field in crop. Target in areas known to be important for arable plants (e.g. from historic records) and where it will support specific bird species that are present in the area and will benefit from this type of habitat (e.g. stone-curlew, turtle dove). Rotation around the farm can prevent build-up of undesirable weed species. Avoid areas with high weed burden, especially where there are injurious weeds in the seed bank. *Note: At the end of the rotation, areas should be cleared by mowing or cultivation rather than the application of herbicides.*	Farm Wildlife: Fallow Plots Plantlife: Managing arable farm land SFI option: AHW11 Cultivated areas for arable plants **Local case studies:** South Downs Farmland Bird Initiative: (storymap) For more information on specific measures to support farmland birds, see Part 3 of this LNRS on 'farmland birds assemblage'.
FL1.3	**Create new areas of agro-forestry where this will support and enhance landscape character, support biodiversity and deliver other benefits such as shelter and shade for livestock.** **Unmapped**	This can be 'in-field' or 'around field' planting of in-field and hedgerow trees; management (pruning) of established trees; accompanying cropping or pastoral regimes.	Areas where this is a suitable land use in relation to landscape character (as guided by relevant local landscape character assessments[2]) and Protected Landscape Management Plans. Forestry Commission Mapping and Woodland Opportunity Map (Sussex Nature Partnership and SDNP) can also help to spatially target opportunities[3].	Gov.uk guidance – Forestry Commission: A guide to agroforestry Woodland Trust: Farming for the future: Agroforestry benefits for nature and climate

2 West Sussex Landscape Character Assessment, South Downs Landscape Character Assessment, High Weald AONB Management Plan.
3 https://data-forestry.opendata.arcgis.com/datasets/aa20163c87814a3a8f5c19075244927a_0/explore
https://www.southdowns.gov.uk/wildlife-habitats/habitats/healthy-woodlands/woodland-opportunity-mapping/

Code	Measures	How	Where	Further info/guidance
FL1.4	**Provide nesting and roosting boxes or other features to support bats, birds, insects and reptiles in the farmed environment.** **Unmapped** 	Provision of standing deadwood, log piles and hibernaculums; bare ground; bird boxes; bat boxes; roosting/ nesting sites in farm buildings.	For birds, rather than providing general bird boxes, provide specific types of boxes suited to **threatened** bird species found at the location (e.g. swift, house sparrow, starling, owl species etc) and in locations where over-wintering habitat and summer insect-rich forage is present. Note: swift bricks are considered a universal fix for small cavity-nesting bird species as they will also be used by house sparrows, starlings, great tits, blue tits and occasionally house martins and nuthatches. For bats, target areas where bats are known to roost or forage. Log piles, hibernaculums and standing deadwood will support amphibians, reptiles and a general range of insects.	Bat Conservation Trust: Bat boxes; and Bat box information pack. Barn Owl Trust: Where's the best place for your Barn Owl nestbox? Swift Conservation: (website) Amphibian and reptile conservation: Reptile Habitat Management Handbook
FL1.5	**Create and manage graded margins up to hedgerow and woodland edges on farmland, to support birds and other woodland and farmland species.** **Unmapped** 	Creation of grass and scrub mosaic along the woodland/ hedgerow edge; no application of pesticides/fertilisers; cut and collect; sensitive grazing; scrub and hedgerow management on rotation.	Alongside priority habitat woodland types and ancient species-rich hedges (usually defined as 5 or more species within 30m).	MAGIC: Priority habitat inventory SFI options: CAHL4: 4m to 12m grass buffer strip on arable and horticultural land CIGL3: 4m to 12m grass buffer strip on improved grassland Amphibian and reptile conservation: Reptile Habitat Management Handbook

Code	Measures	How	Where	Further info/guidance
FL1.6	**Plant new field trees to ensure continued presence of in-field trees within the farmed landscape.** **Unmapped** 	Tree planting (with a plan for their long-term management and maintenance); protection from grazing if required; creation of a buffer of low growing vegetation around in-field trees to ensure they are not isolated from other habitat.	In locations where in-field trees have been lost or are old/veteran trees and thus where a plan for 'succession' is required.	Lost Woods of the Low Weald and Downs: Ancient and veteran trees project
FL1.7	**Implement sensitive land management practices on farmed land adjacent to rivers, streams, ditches and ponds to prevent runoff and enhance the quality of the freshwater environment.** **Unmapped** 	Reduced chemical inputs on land adjacent to rivers/ streams; management of cattle poaching along river banks; cover crops; presumption against specific livestock with known detrimental impact on water quality (e.g. pig farming and Cryptosporidium/ chicken farming and nutrient runoff), promotion of soil health.	Land adjacent to watercourses, particularly in areas vulnerable to nutrients and/ or sediment loads within watercourses/ freshwater ecosystems.	Gov.uk: Catchment Sensitive Farming guidance Gov.uk: Nitrate vulnerable zone designations and appeals 2025 to 2028 SFI option: BFS6: 6m to 12m habitat strip next to watercourses CSHT option: CWT2: Buffer in-field ponds and ditches on arable land

Other core measures overlap directly with this priority and will contribute to its delivery, these include:

Many of the measures that relate to **Rivers, Streams & Aquifers** and **Wetlands & Standing Water Bodies** located on farmland will be relevant (see sections below). These include:

RIVERS, STREAMS & AQUIFERS

R1.6 Create and manage permanent vegetation buffer strips alongside rivers and streams to support biodiversity and intercept and reduce levels of pollutants (such as nutrients, chemical pollutants, veterinary chemicals, excessive sediment) reaching watercourses.

WETLAND AND STANDING WATER BODIES

SWB1.1 Enhance and restore existing ponds and pond complexes to improve biodiversity and water quality. This includes restoration of degraded and lost (ghost) ponds, pond complexes, farm ponds, hammer ponds, dew ponds and urban ponds.

SWB1.2 Create new ponds / pond networks (complexes) to provide additional freshwater habitat and deliver wider environmental benefits (e.g. storage of water in the landscape). *Pond creation on farmland will provide additional ecological variety. Can be designed to store additional water in the landscape and support farmland bird species.*

SWB1.5 Create and manage permanent vegetation buffer strips alongside ditches and ponds to support biodiversity and intercept and reduce levels of pollutants (such as nutrients, chemical pollutants, veterinary chemicals, excessive sediment) reaching watercourses.

The farmed landscape in West Sussex contains a range of other habitat types and covers a large percentage of its total land area. Therefore, measures within the following sections will also be relevant in delivering nature's recovery in the farmed landscape: **Species rich-grassland**; **Woodland, Hedgerows & Scrub**; **Lowland Heathland & Sandstone Outcrops**; **Nature Networks** (protected sites and wildlife corridors).

Also relevant may be measures relating to **Coastal Habitats** – where these sit within agricultural landholdings.

Turtle dove © iStock.com/CreativeNature_nl

Code	Enabling Measures
FL1.8 (EM)	Improve and coordinate support to farmers to provide clearer signposting and advice on options and funding available for nature-based actions on their land (e.g. ELMS, catchment-based funding, protected landscape funds etc). *This will require the organisations involved in providing landowner advice in Sussex to coordinate their activity, share information on activities they are supporting and develop a clearer, targeted offer to farmers on funding and support available.* *Include sustainable farming practices, such as regenerative farming, also linking to best practice and sources of funding available.*
FL1.9 (EM)	Support collaboration between farmers at a landscape scale, via farm-cluster groups and applications to landscape-scale schemes and funding opportunities – through provision of facilitation and funding. Cross-reference to Corridor 1 priority (landscape scale activity).
FL1.10 (EM)	Showcase best practice 'farmer to farmer' e.g. exemplar hedgerows etc.
FL1.11 (EM)	Support a farmer-led communications initiative to promote greater understanding of farming by the public, illustrating the pressures on farm businesses and the role of the sector in delivering positive impacts for nature and the environment. This could include actions such as farm tours and walks which get people out onto farms as well as traditional communications approaches.
FL1.12 (EM)	Enhance the evidence base for farmland habitats, encouraging and supporting long term monitoring and evidence gathering to inform future interventions to support farmland habitats.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
European water vole	FL1.7
Hazel dormouse	FL1.3, FL1.5
Pine marten	FL1.3, FL1.5
West European hedgehog	FL1.5
Greater horseshoe bat	FL1.5
Grey long-eared bat	FL1.1, FL1.4, FL1.5
Greater mouse-eared bat	FL1.1, FL1.5
Dark-bellied brent goose	FL1.1, FL1.2, FL1.7
White-tailed eagle	FL1.7
Adder	FL1.1, FL1.2, FL1.5
White-clawed crayfish	FL1.7
Glow-worm	FL1.5
Grass-poly	FL1.7

Priority assemblages of species	Measures that would be beneficial
Farmland birds assemblage	FL1.1, FL1.2, FL1.4, FL1.5
Rare arable plants assemblage	FL1.1, FL1.2
Streams & rivers assemblage	FL1.7
Woodland bats assemblage	FL1.4, FL1.5, FL1.7
Woodland birds assemblage	FL1.3

FARMED LANDSCAPE & SOILS

Priority: SL1

Enhance soil habitats and their health to support biodiversity and improve ecosystem services

What does success in 10 years look like?

- The condition and health of soil across the farmed landscape of West Sussex is improving through a range of management and land use practices including rotation, suitable tillage and grazing regimes, retention of permanent pasture.
- There is increased integration of grass and herb-rich leys within farming systems, where appropriate, to increase biodiversity and improve soil health. Temporary habitats on farmland are recognised for the role they have on soil health.
- There is a greater understanding of soil condition and soil type, potential and variability across the LNRS area. There is more understanding of how soils can be improved to deliver soil health and other associated ecosystem services such as food production, soil biodiversity, carbon sequestration and greater farmland resilience to flooding and drought.
- Artificial inputs such as synthetic nitrogen-based fertilisers, fungicides, pesticides and herbicides have been reduced and minimised.
- Farmers have been able to access training and new insights into optimal management of soil for soil biology and organic carbon. The impacts of different farming systems on soils is understood.
- Rates of soil loss and erosion have slowed, particularly into rivers and other watercourses. This is benefitting the quality of the freshwater and marine environment.

High Weald © iStock.com/HerbySussex

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
SL1.1	**Implement farming techniques that improve soil health and biodiversity.** **Unmapped** 	Regenerative farming; organic farming; crop rotation; reduced tillage practices; mob grazing; integration of grass and herb-rich leys (arable); use of seed/plants of local provenance, use of cover crops etc.	Suitable for widespread application.	Regenerative Food & Farming: website Groundswell: 5 principles of regenerative agriculture Gov.uk: Nitrate vulnerable zone designations and appeals 2025 to 2028 Gov.uk: Groundwater source protection zones (SPZs) Nature Friendly Farming Network (website) SFI options (some examples): SOH1: No-till farming CSAM3: Herbal leys SOH3: Multi-species summer-sown cover crop
SL1.2	**Implement sensitive forestry practices to reduce impacts and compaction to forest floor and protect mycorrhizal systems.** **Unmapped** 	Timber extraction by heavy horses; if using conventional equipment, timing of works to reduce impact.	Particularly important in ancient woodland.	Gov.uk – Forestry Commission. The UK Forestry Standard (see soil section)
SL1.3	**Reduce pesticide and fertiliser inputs, particularly within Nitrate Vulnerable Zones and Source Protection Zones.** **Unmapped** 	Strategic use of chemicals; use of alternatives.	Suitable for all farmland; particularly important in NVZs, SPZs.	Defra statutory guidance: Enforcing the farming rules for water Gov.uk: Nitrate vulnerable zone designations and appeals 2025 to 2028 Gov.uk: Groundwater source protection zones (SPZs) SFI option: CIPM4: No use of insecticide on arable crops and permanent crops

Code	Enabling Measures
SL1.4 (EM)	Increase knowledge in soils and biology via training for farmers/landowners on soils and organic carbon.
SL1.5 (EM)	Provide advice and support for introduction of healthy soil management techniques that align with supporting financially viable and resilient farming businesses.
SL1.6 (EM)	Establish a programme of funded soil testing and monitoring for organic carbon and biology to target arable and low-input grassland.

Hazel dormouse © iStock.com/SzymonBartosz

Priority species that would benefit from soil habitat priorities and measures

Priority species	Measures that would be beneficial
European water vole	SL1.3
Hazel dormouse	SL1.2
Pine marten	SL1.2
Greater horseshoe bat	SL1.1, SL1.2
Grey long-eared bat	SL1.1, SL1.3
Greater mouse-eared bat	SL1.1, SL1.2
Dark-bellied brent goose	SL1.1, SL1.3
White-tailed eagle	SL1.1, SL1.3
Adder	SL1.1
White-clawed crayfish	SL1.3
A spider *Araniella alpaca*	SL1.2
A spider *Xysticus luctuosus*	SL1.2
Large gold case-bearer	SL1.1
Grass-poly	SL1.1, SL1.3
Priority assemblages of species	**Measures that would be beneficial**
Rare arable plants assemblage	SL1.1
Woodland bats assemblage	SL1.1, SL1.2, SL1.3

Species-rich Grassland

Meadow © iStock.com/Chris Page

SPECIES-RICH GRASSLAND

Priority: G1

Restore, expand, connect and enhance species-rich grasslands*

**For the purposes of this priority these include: lowland calcareous grassland (chalk grassland), species-rich meadows (including lowland meadows) and pastures, waxcap grasslands, and neutral grasslands.*

Note: Semi-natural grasslands within the High Weald National Landscape (HWNL) are dealt with under their own measures, given the complexity of grasslands in this area and the specific way in which the HWNL Team has been collating data and providing management support for the grasslands within its boundary. The term 'species-rich grassland' in these measures therefore relates to the definition of the term used by HWNL Team.

Acid grassland is most commonly found in association with heathland habitats and is thus dealt with primarily in the lowland heathland section below. Wet grassland and floodplain grazing marsh is included in the Wetland section below.

What does success in 10 years look like?

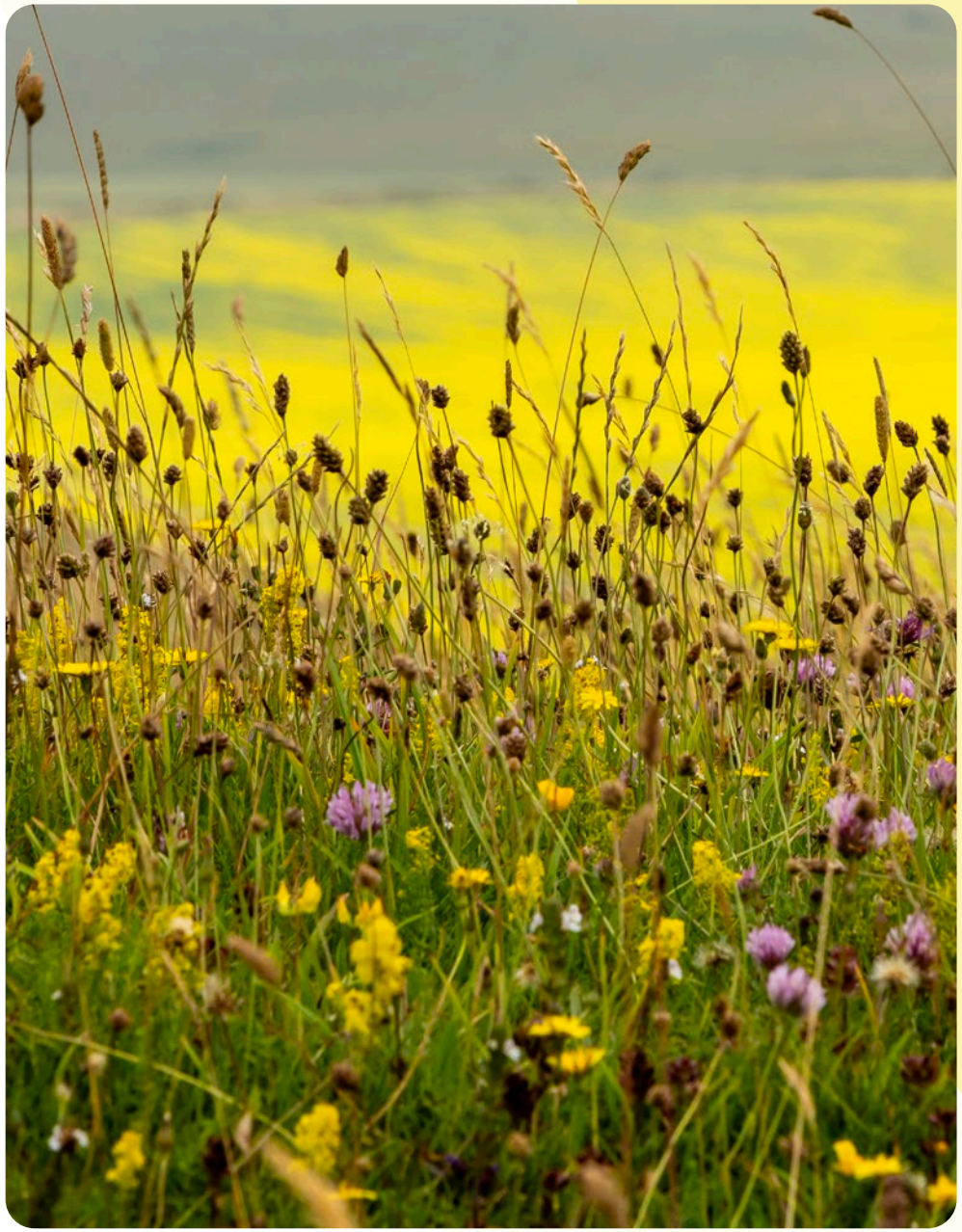
- The focus has changed from managing small fragments of species-rich grassland, to a more joined-up approach that is delivering bigger, better and connected areas of species-rich grassland and associated habitats (e.g. scrub). Projects at a county and regional scale are helping to deliver progress at a landscape scale.
- More areas of existing species-rich grassland are being managed and restored to protect and enhance their value for nature. This includes management of grassland with low chemical inputs and appropriate grazing regimes. As a result, there is increased abundance of important plant species and the specific priority species associated with these habitats.
- Remnants of these valuable habitats have been identified and are being buffered and better connected through appropriate management of suitable adjacent high quality semi-improved grassland to create larger connected areas of species-rich grassland. Where creation of larger contiguous areas is not possible, greater connectivity is being achieved through creation of corridors or stepping stones of habitat. This will often be within a mosaic of habitats dependent on underlying geology and current and historic land management influences (including grassland, woodland, scrub and/or hedgerows).

- Overall, a larger number of areas of high quality semi-improved grassland (which have the potential to become species-rich grassland) are being managed to increase diversity of important plant species and attract insects and other wildlife. Where possible this is being done in areas where this can help buffer or better connect existing areas of habitat as noted above.

- The enhancement and reduced fragmentation of low input species-rich grassland across West Sussex is delivering wider benefits including for pollinators, water quality, aquifer recharge, soil retention and quality, and carbon storage. Some of this is contributing to local and regional ambitions to support the natural function of aquifers such as the Big Chalk Initiative across Southern England.

- There is a much greater understanding and appreciation of the variety and value of the different types of species-rich grasslands found in West Sussex, which are directly related to the underlying soils and geology and can vary immensely within a small area in some parts of the county.

- There is increasing recognition of the value of the undisturbed soils of our semi-natural grasslands for both carbon storage and carbon capture.

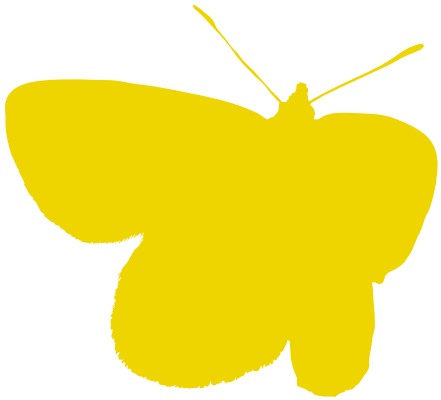


Wildflower meadow, South Downs © iStock.com/Lemanieh

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

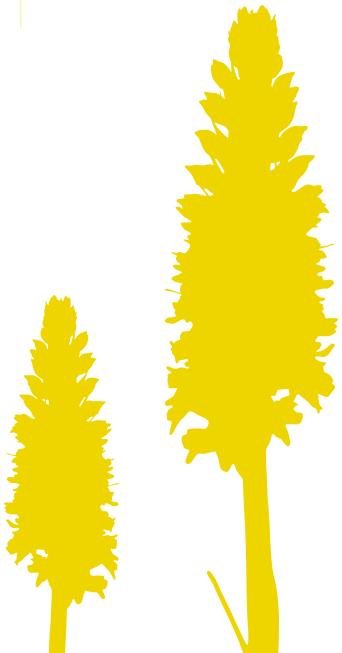
Code	Measures	How	Where	Further info/guidance
G1.1	**Enhance existing areas of species-rich lowland calcareous (chalk) grassland, maintaining and improving its quality, diversity of species, suitable sward height and structure.** **Mapped** 	These will be site specific but may include: rotational extensive grazing throughout the year; grazing/cut and collect regimes sensitive to the flora, fauna and fungi of the site; reduction in erosion; control of invasive non-native species (such as cotoneaster on downland areas of chalk grassland); use of locally harvested wildflower seed suitable for soil conditions or green hay for seeding new areas; reduction of recreational pressure on habitat and species disturbance via visitor management; control or removal of scrub where required. *Note: On chalk grassland in particular, it may be beneficial to control scrub to create a grassland/ scrub mosaic for the benefit of specific species (e.g. butterflies) and to create viable grazing areas. Seek ecological advice to identify suitable percentage scrub cover that would be valuable).*	All areas of existing lowland calcareous (chalk) grassland; particularly those areas within and adjacent to Local Wildlife Sites and SSSIs/NNRs.	CSHT option: CGS22: Manage priority habitat species-rich grassland Amphibian and reptile conservation: Reptile Habitat Management Handbook
G1.2	**Create new areas of calcareous (chalk) grassland, particularly where this will expand existing sites and improve connectivity with existing areas of chalk grassland and related chalk habitats (such as chalk heath).** **Mapped** 	These will be site specific but will include allowing natural regeneration/ colonisation of adjacent land via seed dispersal; use of green hay; use of local provenance seed or other plant material; grazing; cutting and removal of hay crop to reduce nutrients if required.	Locations where this will help to expand or better connect existing areas of high-quality chalk grassland and other chalk habitats. In terms of target sites, a good starting points will be suitable areas of semi-improved grassland on chalk soils, particularly those adjacent to existing chalk grassland. Reversion of improved grassland and arable on chalk soils is also possible but may be harder to achieve.	**Local case studies:** National Trust: Changing Chalk Partnership Big Chalk: (website)

Code	Measures	How	Where	Further info/guidance
G1.3	**Within the High Weald National Landscape, enhance the existing species-rich grasslands and lowland meadows found within the protected landscape, maintaining and improving ecological condition, diversity of species, suitable sward height and structure.** *(These include ancient, undisturbed and unimproved neutral grasslands, dry acid grassland, lowland meadows, hay meadows and pastures found within the High Weald National Landscape as defined and mapped by High Weald National Landscape.)* *For **waxcap grasslands** which are also found in the High Weald, see separate measure below.* **Mapped**	These will be site specific but may include: rotational extensive grazing throughout the year; grazing/cut and collect regimes sensitive to the flora, fauna and fungi of the site; reduction in erosion; control of invasive non-native species (INNS); use of local provenance/ locally harvested wildflower seed suitable for soil conditions* or locally sourced green hay for seeding new areas and/or locally grown Weald native plug plants for re-introductions; reduction of recreational pressure on habitat and species disturbance via visitor management; control or removal of scrub where required. **Weald native origin wildflower seed is harvested from existing species-rich grasslands in the Weald for use in creation of Weald grasslands.*	All areas of species-rich grassland within the HWNL not already in positive conservation management; particularly those in and around protected sites (i.e. those within LWS and LNRs or adjacent to/ between SSSIs).	High Weald National Landscape: Wildflower Grasslands in the High Weald (video) and Grassland management and Meadow Grassland in the High Weald Landscape (land manager's pack) Advice can also be provided by High Weald National Landscape Team. Amphibian and reptile conservation: Reptile Habitat Management Handbook



Code	Measures	How	Where	Further info/guidance
G1.4	**Within the High Weald National Landscape, create new species-rich grassland, particularly where this will expand and better connect the species-rich grasslands and lowland meadows of the protected landscape.** *(This may include creation of neutral grassland, dry acid grassland, lowland meadow and other types of species-rich grassland relevant to the High Weald and as advised by the HWNL Team.)* **Mapped**	Start with **low-input or high quality semi-improved grassland sites adjacent to or in close proximity to existing species-rich grassland sites**. Techniques will be site specific but may include: introduction of rotational extensive grazing throughout the year; grazing/cut and collect regimes sensitive to the flora, fauna and fungi of the site; use of local provenance/ locally harvested wildflower seed suitable for soil conditions* or locally sourced green hay for seeding new areas and/or locally grown Weald native plug plants for re-introductions; reduction of recreational pressure on habitat and species disturbance via visitor management; control or removal of scrub where required. **Weald native origin wildflower seed is harvested from existing species-rich grasslands in the Weald for use in creation of Weald grasslands.*	Areas of high quality semi-improved grassland or low-input grassland (within the HWNL) adjacent (or in close proximity) to existing species-rich grassland sites or existing priority habitats.	Advice can be provided by High Weald National Landscape Team.
G1.5	**Manage existing waxcap grasslands to retain and enhance their value for grassland fungi.** **Mapped**	Avoid use of fertilisers, manures, herbicides and lawn treatments; retain as permanent grassland and avoid cultivation; maintain a low sward height through low input grazing or mowing (with removal of arisings); avoid compaction and re-seeding.	All existing areas of waxcap grasslands. These may be located in agricultural grasslands or lawns, cemeteries and amenity grasslands. For more information, see measures within waxcap grassland fungi (assemblage) set out within Part 3 of this LNRS.	Plantlife: Waxcaps and grassland fungi – a guide to identification and management Sussex Biodiversity Record Centre: Grassland waxcap identification tool

Code	Measures	How	Where	Further info/guidance
G1.6	**Enhance existing areas of species-rich neutral grassland and lowland meadow (outside the High Weald National Landscape), maintaining and improving their quality, diversity of species, suitable sward height and structure.** *(Within the High Weald National Landscape, these types of grassland are already included in the definition of 'species-rich grassland and lowland meadows of the High Weald' and so are covered by measures G1.3 and G1.4 for this area of West Sussex.)* **Mapped**	These will be site specific but may include: rotational extensive grazing throughout the year; grazing/cut and collect regimes sensitive to the flora, fauna and fungi of the site; reduction in erosion; control of invasive non-native species (such as cotoneaster on downland areas of chalk grassland); use of local provenance/ locally harvested wildflower seed suitable for soil conditions* or locally sourced green hay for seeding new areas and/or locally grown Weald native plug plants for re-introductions; reduction of recreational pressure on habitat and species disturbance via visitor management; control or removal of scrub where required.	All areas of species-rich neutral grassland and lowland meadow outside High Weald National Landscape not already in positive conservation management; particularly those in and around protected sites (i.e. those within LWS or LNRs or adjacent to/ between SSSIs/NNRs) or in close proximity to other priority habitats.	CSHT Option: CGS22: Manage priority habitat species-rich grassland Kent Wildlife Trust: Management of neutral grassland Plantlife: Managing meadows Amphibian and reptile conservation: Reptile Habitat Management Handbook



Code	Measures	How	Where	Further info/guidance
G1.7	**Create new areas of species-rich neutral grassland and lowland meadow (outside the High Weald National Landscape), particularly where this will improve connectivity with existing neutral grassland and lowland meadow sites.** *(Within the High Weald NL this action is covered by measure G1.4 for this area of West Sussex.)* *Note: The intention of this measure is to create species-rich neutral grassland in good condition rather than species-poor/moderate neutral grassland which may also fall under the definition of 'Other Neutral Grassland' as per the BNG metric.* **Unmapped**	Starting point is **semi-improved grassland on neutral soils** in the first instance (easier to convert to species-rich grassland); reduction of nutrient levels if required; allow natural regeneration/colonisation; use of locally sourced green hay; use of local provenance seed or other plant material; once established, grazing/cut and collect regimes sensitive to the flora, fauna and fungi of the site; management or removal of scrub where required.	Based on underlying soil type (neutral clay and alluvial soils with pH between 5.5 and 6.5); locations where this will help to expand or better connect existing areas of high-quality neutral grassland.	High Weald National Landscape: Managing grassland habitats Plantlife: The Good Meadow Guide Kent Wildlife Trust. Management of neutral grassland (includes a section on how to re-create neutral grassland) How to rewild: Neutral grassland habitat management plan
G1.8	**Manage existing areas of high quality semi-improved/ low-input grassland to retain and enhance biodiversity and support species-rich grassland habitats.** **Unmapped**	Manage to prevent degradation (e.g. over grazing or under grazing) or 'improvement' (addition of fertilisers); low input grazing to support increased sward height and structure; enhance species diversity (local seed sources/green hay).	Known areas of low input/ semi-improved grassland; specifically target areas adjacent to species-rich grassland to act as buffer and basis for expansion of the species-rich habitat.	SFI option: CLIG3 manage grass with very low nutrient inputs Amphibian and reptile conservation: Reptile Habitat Management Handbook

For acid grassland – see lowland heathland section. For wet grassland – see wetland section

Other core measures overlap directly with this priority and will contribute to its delivery. These include:

FARMLAND

FL1.1 Create permanent, species-rich and/or structurally diverse grass blocks, strips, margins or headlands to support pollinators and other wildlife.

WOODLAND

W1.5 Enhance existing wood pasture and parkland to ensure healthy veteran trees, a succession of age classes and a functioning habitat with naturally regenerating trees, shrubs and ground flora.

W2.3 Create new wood pasture and parkland habitat where this will enhance landscape character and increase habitat connectivity; seek opportunities to restore wood pasture and parkland on historic sites.

HEATHLAND

H1.1 Enhance existing areas of lowland heathland habitat through the improvement of ecological condition and structural diversity of the heathland and associated habitats (including acid grassland, wet heath and heathland ponds).

H1.2 Create new areas of lowland heathland and acid grassland mosaic on suitable soil, particularly where this will expand existing sites and improve connectivity between them (e.g. by creation of 'stepping stones' of new habitat).

WETLAND

Wt1.5 Enhance existing areas of lowland wet grassland habitats to improve ecological condition

Wt1.6 Create new areas of lowland wet grassland habitats, particularly where this will expand and connect existing wetland habitats and deliver wider environmental benefits.

More generally, other measures within the **Nature Networks** and **Urban Nature** sections may help to deliver this priority, where enhancement of species-rich grassland is suitable within wildlife corridors (e.g. verges, routeways, footpath networks etc), and in new and existing parks/greenspaces. Species-rich grassland may also play a role in providing buffers to woodland and hedgerows (see **Woodland, Hedgerows & Scrub** section) and in buffers and interception habitat for water courses and aquifers (See **Rivers, Streams & Aquifers** section).

Code	Enabling Measures
G1.9 (EM)	Collate best practice and learning from previous grassland restoration projects, identifying what works and what does not in specific landscapes, soils and situations.
G1.10 (EM)	Encourage and support harvesting and use of local/native seed and proper use of suitable seed mixes. Support creation of a supply of local provenance of UK Biosecure plugs and seeds that are native to Sussex, which meet APHA's seed certification and marketing criteria and conform with CIEEM's code of practice.
G1.11 (EM)	Provide information and awareness raising for landowners on the biodiversity value and significance of their species-rich grassland and importance of suitable management.
G1.12 (EM)	Support knowledge sharing across farmers and landowners on management best-practice, including grazing/livestock management techniques and timings; identify a lead 'champion'/advocate for each sub-county area of the LNRS.
G1.13 (EM)	Support farmers and land managers with grazing livestock, machinery, contractors and infrastructure (fences, water, signs, seed, gates, local abattoirs) required on grassland sites targeted for restoration/expansion.

Code	Enabling Measures
G1.14 (EM)	Establish an effective, proportionate mechanism for surveying chalk grassland and determining value before land-use change, building on learning by SDNPA and Big Chalk Consortium on chalk grassland rapid condition assessment. Start with targeting of low input grassland sites which are not included in priority habitat inventory or within SSSIs. Produce a historic chalk grass land-use map to help target restoration. *Regarding other grassland types: a waxcap grassland surveying methodology is under development and can be disseminated once finalised.* *In some areas of Sussex (e.g. High Weald) it is very difficult to develop a rapid assessment approach due to the complexity of grassland types found in the area (related to varied underlying soils/geology). Expert ecological advice/surveying should be used until such times as other alternatives have been developed.*
G1.15 (EM)	Identify grassland data gaps and develop methodology for mapping non-calcareous species-rich grasslands (acid, waxcap, floodplain, lowland meadow) and their current condition.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Grey long-eared bat	G1.3, G1.4, G1.6, G1.7, G1.8
Greater mouse-eared bat	G1.1, G1.6, G1.7
Adder	G1.1
Large gold case-bearer	G1.8

Priority assemblages of species	Measures that would be beneficial
Chalk grassland assemblage	G1.1, G1.2
Waxcap grassland fungi assemblage	G1.5

Woodland, Hedgerows & Scrub

Young Carers activity day in the woods as part of The Low Woods of the Low Weald and Downs project.

WOODLAND, HEDGEROWS & SCRUB

Priority: W1

Enhance our existing woodland habitats*, improving quality and ecological diversity of habitats, structural diversity and resilience

What does success in 10 years look like?

- Significant pressures on woodland, such as over-grazing by fallow deer (and increasingly muntjac deer), grey squirrels and invasive non-native species, are being addressed. In particular, a landscape-scale approach to deer population management and control is being prioritised over a piece-meal site-based approach. This landscape-scale approach is focused on locations where the pressures are most severe. More natural regeneration of woodland is occurring due to the subsequent reduction in deer numbers and other pressures.

- The value of our ancient and irreplaceable woodland habitats is understood and recognised in decision-making at all scales, helping to reduce its vulnerability to loss and degradation from a range of sources.

- A greater percentage of existing woodland within West Sussex has been brought into active management to support biodiversity and improve age and structural diversity. In particular, our ancient, irreplaceable and priority woodland is being managed to improve ecological function and quality of habitat for woodland species.

- Our remaining types of 'priority woodland' (e.g. gill woodland, wet woodland, traditional orchards, wood pasture and parkland) are being restored and managed to improve their condition.

- Historic coppiced woodlands (including hazel) are being restored through suitable management, supported by skills training and a growing local forestry and woodcraft industry.

- More of our plantations on ancient woodland sites (PAWS) are in positive management for biodiversity.

- Removal of conifers in some areas and where underlying geology and soil is suitable, is providing opportunities for creation of more wooded heath and open heath habitats.

- 'Ecotone' habitats (areas of scrub or other boundary habitats which act as transitional areas between adjacent habitats and support species) are being created along woodland edges. These are providing structural diversity, buffering the woodlands and providing other ecosystem services such as protection of soils and watercourses.

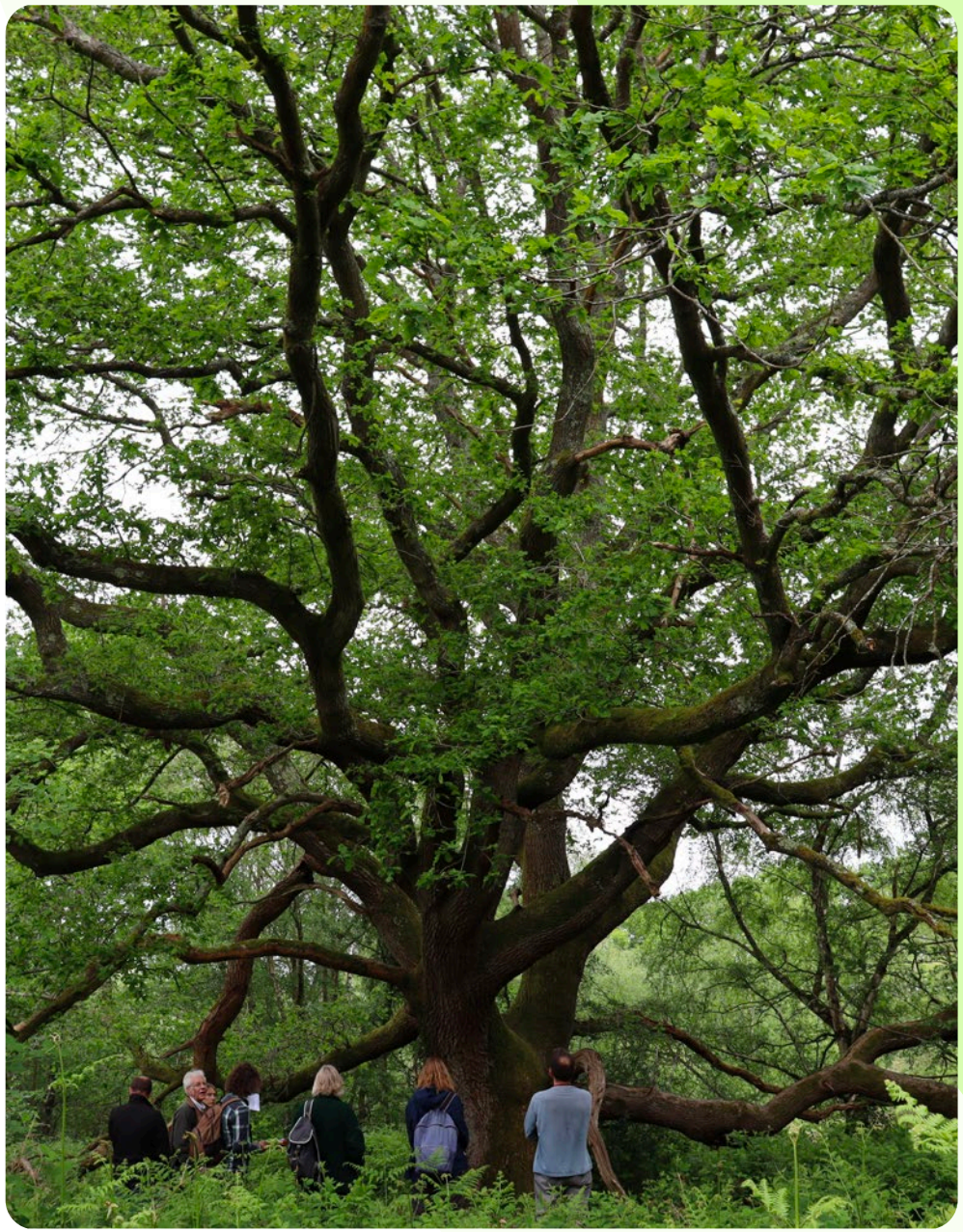
***This includes ancient woodland, semi-natural woodland, plantations on ancient woodland sites (PAWS), gill woodland, wet woodland, coastal woodland, wood pasture and parkland, orchards, trees outside woodland, veteran and ancient trees.**

- Tree species diversity within woodland is being increased, particularly where this is low; increased species diversity is supporting biodiversity and increasing the resilience of these woodlands to the impacts of climate change, pests and diseases etc.

- The loss of trees from our woodland from pests and diseases is being managed where possible to reduce impacts. Where impacts are inevitable, these are providing opportunities for land use change, woodland replanting and regeneration all of which are enhancing the age and species diversity of woodland and its value for nature. Species choice is also ensuring future resilience where possible and is guided by best available evidence and advice.

- Our ancient and veteran trees are being mapped, recorded and managed to protect them from damage and enhance their value as habitat.

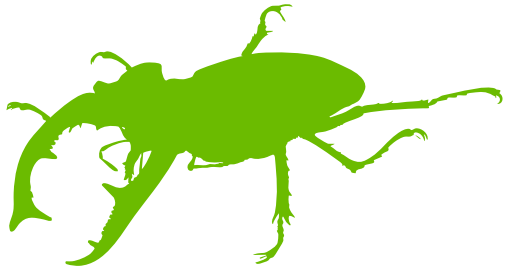
- The native black-poplar population is stable and increasing through natural reproduction. Yew, juniper and other tree species are regenerating and being planted where appropriate to expand the presence of these tree species in the landscape.



Ancient and veteran tree recording volunteers. © WTML

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
W1.1	**Deer Management (landscape scale). Undertake landscape scale deer management with targeted humane culling to reduce the impact of deer on woodland regeneration, recolonisation and ecological condition of woodland habitats.** *Note: This approach should take priority over individual site-based approaches to deer management which tend to displace deer to adjacent areas.* **Unmapped**	Large-scale, coordinated deer control; best delivered via a landscape scale approach involving collaboration of landowners across a wide area. See enabling measures (below) required to support this.	Cross-boundary/regional scale coordinated activity but may focus on agreed hotspots and information from monitoring of deer numbers and impacts.	High Weald National Landscape: Deer management *(Support for farmers and land managers and stalkers)* Deer Management FAQs for landowners Blog: all about deer in the High Weald The British Deer Society: Deer Distribution Survey CSHT option: CWS1: Deer control and management



Code	Measures	How	Where	Further info/guidance
W1.2	**Bring ancient woodland into positive conservation management to support woodland species and enhance its ecological condition and resilience.** **Mapped** 	Key to this is preparation of a management plan to guide future management. This can then set out the most appropriate techniques to use for the site. This may include: traditional woodland management practices (such as coppicing/pollarding); diversification of age structure and species diversity; control of invasive non-native species (INNS); creation of 'edge habitats'/ecotones of scrub or semi-natural vegetation; retention of standing and fallen deadwood; fencing of the site to manage livestock/deer access to woodland to allow natural regeneration; management of other pressures on woodland regeneration e.g. grey squirrels; monitoring for pests/disease and suitable management to reduce impacts; visitor management to protect woodland habitat/reduce disturbance where required. Consider low impact extraction, e.g. heavy horses, for sensitive sites. Management should follow best practice with regards to protected species.	All ancient woodland sites; particularly beneficial where there is no current management plan and/or where the ecological condition of the woodland is known to be threatened, where woodland habitats are concentrated and of ecological importance (as this will expand the overall area in better condition). It may be practical to gradually expand areas under good management by bringing more areas into conservation management in locations where progress towards deer management and woodland management is already being achieved. This will allow expertise and resources to be shared across wider areas.	Seek guidance from Forestry Commission, Woodland Trust and Protected Landscapes (depending on location this will be South Downs National Park Authority or High Weald National Landscape). Woodland Trust: Ancient woodland restoration advice and support and Practical guidance on restoring your ancient woodland Butterfly conservation: Managing woodland for butterflies and moths Gov.uk: Tree and woodland grants and incentives overview **Local case studies:** Lost Woods of the Low Weald and Downs: (website)

Code	Measures	How	Where	Further info/guidance
W1.3	**Enhance the condition of gill woodland through sensitive management and minimal intervention; create buffer habitat around these areas of woodland where appropriate* to protect the core habitat and increase connectivity for species.** *(*This can be any type of suitable semi-natural habitat that will support the gill woodland biodiversity. The type and scale of any buffer habitat must be guided by adjacent habitats and landscape character (many areas of gill woodland are bounded by small field sizes and so the size of any buffer should be designed with field size/ landscape type in mind.)* **Mapped** 	Minimal intervention to retain unique characteristics of these areas of woodland; control of invasive non-native species (INNS); management of livestock/deer access to woodland to allow natural regeneration; retention of standing and fallen deadwood; visitor management to protect woodland habitat/reduce disturbance where required. *Note: some gill woodlands, especially those with bryophyte interest will need specific dappled light/shade conditions which may be impacted by a buffer. Ecological advice should therefore be sought for these sites.* Ecological advice on type/size of any buffer habitat is recommended and can be provided by relevant Protected Landscape Team, Woodland Trust etc.	All areas of gill woodland (enhancement); creation of buffer of semi-natural habitat for those where this is a useful and appropriate action.	CIEEM: Restoring ghyll woods
W1.4	**Enhance and restore existing traditional orchards.** **Mapped** 	Seek specialist advice when restoring old orchards. Suitable techniques include: identification of fruit cultivars and restoration of veteran trees through expert pruning; bringing grassland back into management through light grazing or cutting early in the spring then later summer; monitoring for pests and diseases. *Note: Restoration of traditional orchards requires a specific approach, different to that used for commercial/new orchards.*	Existing traditional orchards not already under management.	High Weald National Landscape: Orchards in the High Weald Landscape – Land manager's pack CSHT option: CBE4: Manage traditional orchards

Code	Measures	How	Where	Further info/guidance
W1.5	**Enhance existing wood pasture and parkland to ensure healthy veteran trees, a succession of age classes and a functioning habitat with naturally regenerating trees, shrubs and ground flora.** *(Note: this habitat type supports an extensive range of species many of which are rare and only known in the UK in this habitat type.)* **Mapped** 	Take expert advice to avoid unintended impacts and loss of biodiversity. Suitable techniques include: protection of veteran trees from browsing and management for health requirements; retention of deadwood and fallen trees; replacement with new plantings at optimum spacings; protection of new plantings from browsing; establishment of optimum grazing pattern to encourage good ecological condition of the grassland and soil; use of green hay, overseeding and plant plugs to enhance grassland condition; retention of deadwood where possible; take an agro-forestry approach to productive land where appropriate and feasible.	Existing areas of wood pasture not currently under woodland management plan or stewardship agreement.	People's Trust for Endangered Species: Tree Care and Management in Wood Pasture and Parkland Pasture Management for Wood Pasture and Parkland Historic Management of Wood Pasture and Parkland CSHT option: CWD21: Restore wood pasture and parkland **Local case studies:** Sussex Wildlife Trust: Ebernoe Common Nature Reserve
W1.6	**Manage existing floodplain and wet woodland to support biodiversity including bryophyte and fern populations.** **Mapped** 	Retention of continuous cover (microclimate); coppicing/pollarding to improve structural and age diversity; selective felling of mature trees; reduction of browsing pressure; retention of deadwood; planting of suitable species. Management should follow best practice with regards to protected species. Species suitable for use in West Sussex include alder, crack willow, oak, black-poplar, downy birch, ash and white willow. Seek guidance from relevant protected landscape team (South Downs National Park Authority; High Weald National Landscape; Chichester Harbour Conservancy).	Areas of wet woodland not already under management for improvement of habitat condition.	Sussex Otters and Rivers Project: How to create and restore wet woodlands

Code	Measures	How	Where	Further info/guidance
W1.7	**Restore PAWS (Plantations on Ancient Woodland Sites), replanting with a more species rich tree mix.** **Mapped**	Selectively thin or clear fell plantations on ancient woodland as appropriate and replant with native species or allow natural regeneration to occur. Consider low impact extraction, e.g. heavy horses, for sensitive sites. Management should follow best practice and any conditions of funding agreements. Management should follow best practice with regards to protected species. *Note: It may be necessary to retain areas of conifer woodland to support certain species dependant on it; seek advice from Forestry Commission.*	All PAWS not already restored or under this type of management.	Gov.uk: Keepers of Time (Ancient and native woodland and trees policy) Forestry England: Restoring ancient sites

Code	Measures	How	Where	Further info/guidance
W1.8	**Bring other priority woodland (i.e. priority woodland types not covered by measures W1.2 – W1.7) into positive conservation management to support woodland species and enhance its ecological condition and resilience.** *In addition to the woodland types above, this may include lowland beech and yew woodland and lowland mixed deciduous woodland.* **Mapped** 	Preparation of management plan; thinning; coppicing; retention of standing and fallen deadwood; creation of open areas (rides, glades, scallops); encouragement of 'edge habitat' (ecotones) of scrub or semi-natural habitats; fencing of the site to manage livestock/deer access to woodland to allow natural regeneration; management of other pressures on woodland regeneration e.g. grey squirrels; monitoring for pests/disease and suitable management to reduce impacts; visitor management to protect woodland habitat/reduce disturbance where required etc. Management should follow best practice with regards to protected species.	All priority woodland not covered by measures (W1.2 – W1.7) particularly where there is no management plan currently in place. This will include the large category of 'lowland mixed deciduous woodland'.	Forestry Research (Forestry Commission UKFS practice guide): The management of semi-natural woodland (lowland mixed broadleaved woods) Wildlife Trusts: How to manage a woodland for wildlife The Conservation Volunteers: How to manage traditional British and Irish Woodlands (Handbook) Gov.uk guidance: Manage and protect woodland for wildlife Butterfly conservation: Managing woodland for butterflies and moths Buglife: Managing woodland for pollinators People's Trust for Endangered Species: Management of woodlands with dormice Gov.uk Forestry Commission Blog: Navigating Countryside Stewardship Higher Tier Funding for effective woodland management

Code	Measures	How	Where	Further info/guidance
W1.9	**Control invasive non-native species (INNS) having a significant impact on woodland habitat and/or regeneration.** *Note: Control of INNS is included in other woodland management measures but is included under its own measure due to its importance and the fact that it may require coordinated and large-scale approaches. This measure does not include control of deer, which is covered under W1.1.* **Unmapped** 	Site level control of species having a significant impact on the woodland habitats and/or regeneration. This may include grey squirrel, rhododendron, cherry laurel, oak processionary moth. Larger-scale actions to control across land holdings where required.	Areas of woodland particularly affected by INNS and/or where these are having a detrimental impact on woodland flora/fauna.	Woodland Trust: How invasive non-native species threaten our woodlands Woodland Wildlife Toolkit: Invasive species and disease Gov.uk guidance: Manage threats to woodland: destructive animals, invasive species CSHT options: CWS3: Grey squirrel control and management CSP14: Invasive plant species control and management (intermediate rate)
W1.10	**Replace lost elm with disease resistant varieties that support the same woodland species and assemblages and improve resilience to pests/disease and likely future climate change.** **Unmapped** 	Replanting with suitable provenance.	Areas where elm has been lost and replacement is required to sustain population and/or support treescape (in the case of towns/ cities).	Forest Research: Dutch elm disease – Central and southern Britain The Conservation Foundation: The Great British Elm Experiment **Local case studies:** Butterfly Conservation: Elms for Adur Hairstreaks Project Eastbourne Reporter: Hope for elm trees

Code	Measures	How	Where	Further info/guidance
W1.11	**Replace lost ash within woodland to support woodland biodiversity and future resilience to pests/ disease and likely future climate change.** **Unmapped** 	Natural regeneration from retained disease resistant trees; management of pressures on the site (e.g. deer/squirrel damage) to encourage regeneration; tree planting using mixture of tree species/provenance sourced from UK grown planting stock to minimise biosecurity risks. Factors to include in choice of species and provenance include site conditions, increasing species/provenance diversity to increase resilience to future disease; choice of provenance/species likely to handle future climate changes. Advice on best species choice may change through time as evidence emerges on resilience of provenances and species to likely future climate changes.	Areas where ash has been lost from woodland.	West Sussex County Council. ash dieback Woodland Trust: Woodland restoration and the fight against tree disease Forest Research: ash dieback Forestry Commission: Operations Note 046b. Restocking woodland following the loss of ash due to ash dieback. Tree Council: Ash Dieback – an action plan toolkit Sussex Wildlife Trust: Ash Dieback Contact Woodland Trust for information on tree packs for ash replacement (specific for soil types found in West Sussex)
W1.12	**Manage existing and 'future' veteran and ancient trees to maintain good ecological condition and ensure continued habitat for the species they support.** **Mapped** 	Replanting; pruning/tree management; protection of root zones etc.	All existing and future veteran trees.	Woodland Trust: Ancient tree inventory Woodland Trust: Ancient and Veteran Trees – caring for special trees on farms Woodland Trust: Ancient tree guide 8. Trees and events

Code	Measures	How	Where	Further info/guidance
W1.13	**Enhance existing areas of coastal woodland in Chichester Harbour.** **Unmapped** 	Protection from grazing (livestock/deer) if required.	Areas of existing coastal woodland in Chichester Harbour National Landscape. Seek guidance from Chichester Harbour Conservancy.	Chichester Harbour Conservancy: Chichester Harbour Management plan Trees for Cities: Tree planting in coastal towns and cities

Other core measures overlap directly with this priority and will contribute to its delivery. These include:

FARMLAND

FL1.5 Create and manage graded margins up to hedgerow and woodland edges on farmland, to support birds and other woodland and farmland species.

WOODLAND

W3.2 Restore the treescape of cities and towns, particularly those that have declined through time and/or suffered loss of species (e.g. elm, ash, London plane), ensuring replacement with resilient species.

W3.4 Bring existing urban woodlands into active management to enhance nature conservation, historic environment and access.

Code	Enabling Measures
W1.14 (EM)	Develop a Deer Management Strategy – working across key stakeholders and at a regional scale.
W1.15 (EM)	Work across stakeholders to develop an awareness raising/ communications strategy on the need for deer management to support woodland management.
W1.16 (EM)	Work across stakeholders to support the growth of a local venison market, necessary to support deer management approaches.
W1.17 (EM)	Provide support and encourage creation of ancient woodland management plans focusing initially on key and vulnerable sites before rolling out support for their creation more widely.
W1.18 (EM)	Develop community woodland management projects where there are clear benefits for public economy and health and positive woodland management. Example of local best practice: Lost Woods of Low Weald and Downs

Code	Enabling Measures
W1.19 (EM)	Support the Sussex Black-Poplar Partnership to grow and distribute black-poplar to landowners creating and restoring wet woodland.
W1.20 (EM)	Promote adoption of UK tree and plant health biosecurity policies and encourage local sourcing and growing of tree stocks.
W1.21 (EM)	Support development of local markets for wood-based products that support traditional woodland management approaches such as coppicing *(e.g. fuel, timber).*
W1.22 (EM)	Local Authorities – adopt local plan policies to support recovery of woodland and ancient and veteran trees in Sussex, supporting their protection in planning and maximising opportunities for creation, restoration and enhancement of trees and woodland. *e.g. local planning policies seeking 50m buffers to development around ancient woodland, with smaller buffers where it can be shown to be sufficient. See Woodland Trust Planning Guidance.*

Beaver © iStock.com/Ryzhkov_Sergey

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Beaver	W1.6, W2.4
Hazel dormouse	W1.1, W1.2, W1.3, W1.7, W1.8
Pine marten	W1.1, W1.2, W1.3, W1.7, W1.8
Greater horseshoe bat	W1.2, W1.7, W1.8
Grey long-eared bat	W1.2
Greater mouse-eared bat	W1.2, W1.7, W1.8
Adder	W1.2, W1.8
A spider *Araniella alpaca*	W1.2, W1.8
A spider *Centromerus albidus*	W1.2, W1.7
A spider *Hygrolycosa rubrofasciata*	W1.3, W1.6
A spider *Xysticus luctuosus*	W1.1, W1.2, W1.8, W1.9
A wasp *Ectemnius borealis*	W1.2, W1.7, W1.8
Cosnard's net-winged beetle	W1.2, W1.8, W.1.12
Stag beetle	W1.2, W1.8
Pearl-bordered fritillary	W1.1, W1.2, W1.8
Variable chafer	W1.5, W1.12
Cheese snail	W1.2, W1.8
Priority assemblages of species	**Measures that would be beneficial**
Deciduous woodland & wood pasture fungi assemblage	W1.2, W1.5, W1.7, W1.9
Open parkland mature & veteran tree lichens assemblage	W1.5, W1.12
Open deciduous woodland assemblage	W1.2, W1.7, W1.8
Woodland bats assemblage	W1.2, W1.3, W1.7, W1.8
Woodland birds assemblage	W1.1, W1.2, W1.3, W1.6, W1.7, W1.8

WOODLAND, HEDGEROWS & SCRUB

Priority: W2

Create new woodland where this supports connectivity, biodiversity, ecosystem services and landscape character

What does success in 10 years look like?

- Our networks of existing woodlands are being strengthened by woodland creation designed to expand and connect existing woodland sites. Rather than larger-scale projects, this is the main focus of woodland creation within West Sussex given the existing high coverage of woodland habitats and the need to protect and enhance landscape character and priority habitats. These constraints are most notable in particular National Character Areas (NCAs), such as the High Weald (characterised by existing woodland, historic field boundaries and fragile grasslands) and South Downs (with its predominantly open landscape character of chalk grassland and related habitats).
- Smaller areas of ancient semi-natural woodland (such as those found predominantly in the High Weald and Low Weald NCAs) and vulnerable fragments of hanger woodland (in the South Downs NCA) are being expanded by creating areas of new woodland around their boundaries where this is appropriate, increasing their resilience and enhancing their value for wildlife.
- Connectivity of these woodland habitats is being enhanced through creation of new areas of woodland and trees outside woodland which act as stepping-stones and corridors between existing sites. The Low Weald in particular provides opportunities for small-scale new woodland creation to 'significantly enhance the area's intricate and characteristic mix of semi-natural woodlands, gill woodlands, shaws, small field copses, hedgerows and individual trees to reduce habitat fragmentation and benefit biodiversity'[4].
- The appropriate technique for woodland creation is being used based on-site considerations, e.g. natural colonisation, regeneration or planting. Within West Sussex, where deer pressure is low enough to allow it, approaches which encourage recolonisation and regeneration are particularly effective and produce areas of new woodland with significant benefits for nature. Where planting is used, species choice supports biodiversity and landscape character, but is also mindful of resilience to climate change, and pests and disease.

4 Natural England. National Character Area Profile 121: Low Weald

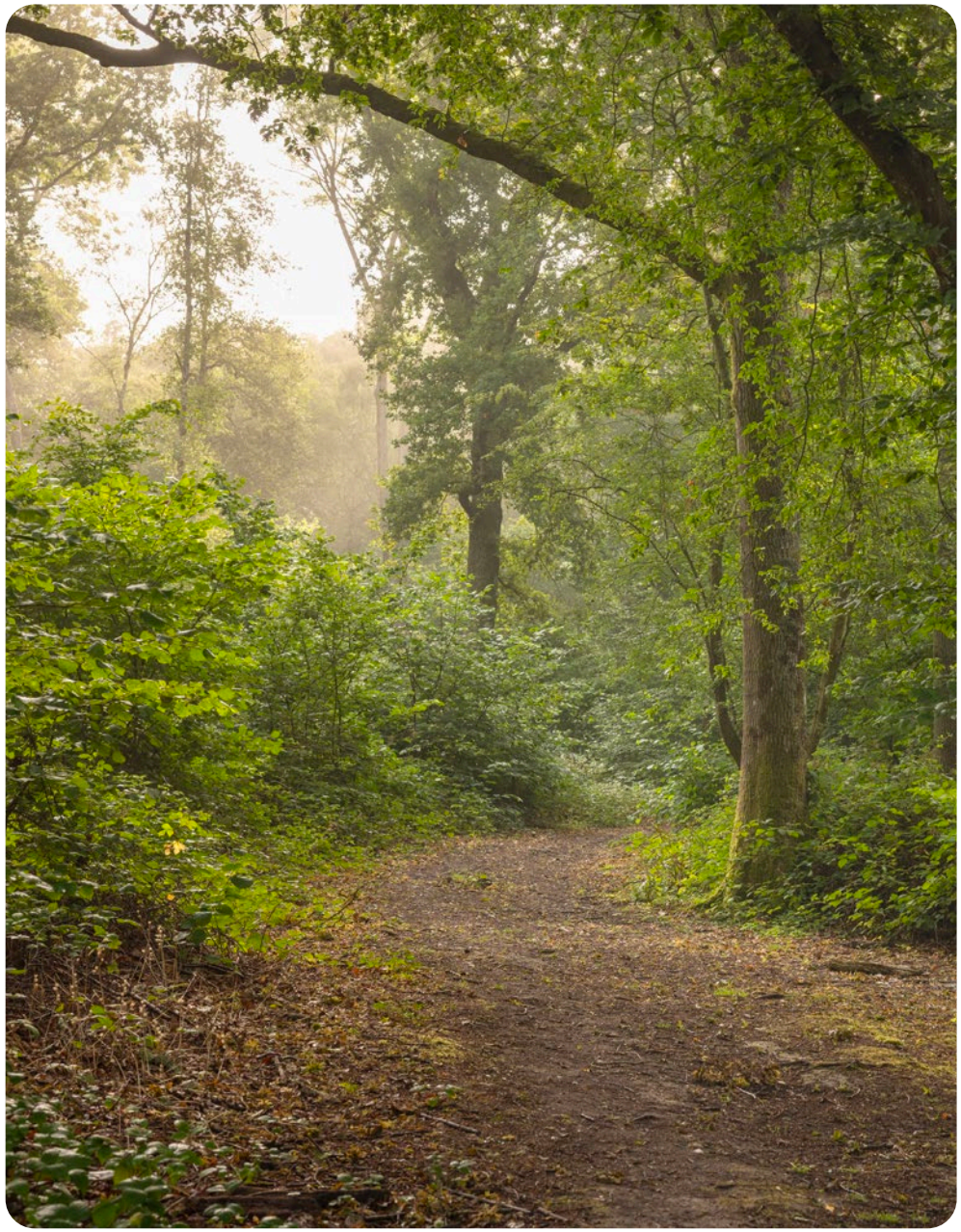
- Specific woodland types (including orchard, and wood pasture and parkland) are being re-established or restored in locations where they have been ‘lost’, enhancing historic landscapes whilst providing woodland connectivity and habitat. This includes restoration of woodland as part of wider woodland/ heathland habitat mosaics in medieval forests and ‘deer parks’ such as those found in the High Weald.

- Care is being taken to ensure that woodland is created where this complements and protects other priority habitats, landscape character or archaeological heritage, rather than loss or degradation of these. The principle of the ‘right tree in the right place for the right reason’ is being implemented.

- New woodland creation is also being located and designed to deliver multiple benefits where possible, including biodiversity, nature-based solutions for water quality, slowing the flow of water in the landscape to support river base flows and flood management, carbon storage, air quality, enhancement of landscape character and new opportunities for access to nature.

- The appropriate technique for woodland creation is being used based on site considerations. e.g. natural colonisation, regeneration or planting. Species choice is supporting biodiversity, landscape character, resilience to climate change, and pests and disease.

- Opportunities are being taken to ensure succession of veteran and parkland trees, in-field trees, hedgerow trees and groups of trees in the landscape.



Woodland restoration of existing semi-natural broadleaf woodland. Woodland management is important for specialist species such as pearl bordered fritillary butterfly and nightingale.
© James Ratchford

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
W2.1	**Create new areas of species-rich woodland and 'trees outside woodland' to expand and better connect existing woodland and deliver multiple benefits (such as habitat, flood risk reduction, water quality, shelter, access and recreation, landscape enhancement and carbon sequestration).** *This is in addition to creation of new orchards, wood pasture and parkland and floodplain/wet woodland which are covered by measures below.* **Mapped** 	Recolonisation; regeneration; or planting. Include open areas (glades and rides) in design and encourage 'edge habitats' (ecotones) of scrub or semi-natural habitat. When planting, tree species choice should support biodiversity but consider climate/ disease resilience and local landscape character. Seek guidance from Forestry Commission, Woodland Trust and/ or relevant protected landscape teams (South Downs National Park Authority; High Weald National Landscape).	Given the extent of existing woodland in West Sussex, new woodland creation will be most beneficial in locations where it will expand existing woodland sites or increase connectivity between sites. It will be particularly beneficial where: • It can be located on previously wooded sites (Epoch 1 OS maps where available); • It will help to better connect areas of ancient woodland; • It will expand the area of smaller woodland sites; • It will improve connectivity between particularly 'isolated' woodland areas. In all cases, the principle of the 'right tree in the right place for the right reason' must be applied. As such, all woodland creation in West Sussex must be guided by landscape character and constraints on the site including presence of other habitats, archaeology etc. Preferably, it will also be located where it will deliver other benefits such as flood risk reduction, carbon sequestration, air quality improvement and landscape character.	South Downs National Park/ Sussex Nature Partnership: Woodland Opportunity Mapping (This tool maps 'woodland opportunity areas with less sensitivity' across Sussex and South Downs National Park. These tend to be areas of 50-350m around existing woodland where there are the least constraints to woodland creation and where it will deliver benefits such as flood risk reduction and a buffer to noise/air pollution along major roads.) Woodland Trust: Woodland Creation Guide and Tree species handbook and Managing your new woodland Gov.uk: Tree and woodland grants and incentives overview

Continued overleaf

Code	Measures	How	Where	Further info/guidance
W2.1 cont.			Woodland Opportunity Mapping for Sussex provides a general guide to areas of sensitivity for woodland creation across Sussex and the South Downs National Park based on a number of key benefits and constraints (but excluding landscape character). New woodland creation is noted as a particular opportunity within the **Low Weald** National Character Area as a means to enhance and better connect existing woodland and hedgerow networks in this area. In the High Weald National Landscape area, due to limited areas of opportunity and fragility of grassland sites which may be affected, it is important to seek initial advice on site suitability from High Weald National Landscape Team.	**Local case studies:** Lost Woods of The Low Weald and Downs: Nature corridor scheme (helping to reconnect ancient woodlands) South Downs National Park Trust: Trees for the Downs Chichester District Council; Chichester District Tree Scheme.
W2.2	**Establish new orchards, including community orchards, with a focus on maintaining locally distinctive varieties.** **Unmapped**	Tree planting (using suitable varieties).	Any suitable site as per advice (Forestry Commission, Woodland Trust, Protected Landscape Teams for relevant area) and following the principle of the 'right tree in the right place' as outlined in W2.1 above.	The Orchard Project: Guides and advice

Code	Measures	How	Where	Further info/guidance
W2.3	**Create new wood pasture and parkland habitat where this will enhance landscape character and increase habitat connectivity; seek opportunities to restore wood pasture and parkland on historic sites.** **Unmapped** 	Natural colonisation of scrub and tree species; planting of individual and groups of trees; grazing to create variety in the sward and encourage recolonisation; avoidance of agricultural inputs; habitat restoration using natural processes driven by grazing herbivores.	Farmland (arable or improved grassland) particularly where it extends, links or buffers existing sites, sites with open grown trees or areas of other woodland priority habitat; areas of 'lost'/historic wood pasture where this information is available; and following the principle of the 'right tree in the right place' as outlined in W2.1 above.	National Trust: Creation of wood pasture systems (Toolkit) Farm Wildlife: Wood pasture and parkland CSHT option: CWD20: Create wood pasture **Local case studies:** Knepp estate: a wood pasture landscape
W2.4	**Create new areas of floodplain and wet woodland, particularly where this will expand existing sites and contribute to habitat connectivity and the management of water flow in the landscape.** **Unmapped** 	Natural colonisation; tree planting (black-poplar and other suitable species); creation of leaky dams to encourage wet areas for woodland establishment.	Target creation of new areas in locations which will expand/connect existing sites; best located in areas where trees and scrub are already growing near streams, springs or rivers (in flood plains but also in other locations across the landscape which flood regularly). Creation of this habitat can play a role in slowing the flow of water in the landscape (as part of Natural Flood Management projects – see R1.5 below).	Sussex Otters and Rivers Partnership: How to create and restore wet woodlands
W2.5	**Plant new parkland trees, tree groups and individual hedgerow trees to support succession and continued presence of these features in the landscape.** **Unmapped** 	Tree/hedgerow planting; protection of individual trees from grazing.	Areas of existing and historic parkland; within existing hedgerows.	Higher Tier Capital Grants: TE2 Planting standard parkland trees

Code	Measures	How	Where	Further info/guidance
W2.6	**Increase the extent of coastal woodland in Chichester Harbour National Landscape through expansion of existing areas of woodland.** **Unmapped** 	Creation of new woodland via natural colonization; tree planting;	Expand existing areas of woodland where coastal squeeze permits and this does not conflict with other priority habitats or landscape character.	Seek advice from Chichester Harbour Conservancy team.

Other core measures overlap directly with this priority and will contribute to its delivery, these include:

WOODLAND

W1.1 Deer Management (landscape scale). Undertake landscape scale deer management with targeted humane culling to reduce the impact of deer on woodland regeneration, recolonisation and ecological condition of woodland habitats.

W3.3 Establish new areas of urban and peri-urban woodland which offer multiple benefits to residents, wildlife and landscape.

FARMLAND

Fl1.3 Create new areas of agro-forestry where this will support and enhance landscape character, support biodiversity and deliver other benefits such as shelter and shade for livestock.

More generally, woodland creation may play a role in how other measures are delivered on the ground. For example, the **Rivers, Streams & Aquifers** section contains measures which may see creation of riparian woodland to provide shade or buffer vegetation. Natural Flood Management may also employ woodland creation as a technique. The **Urban Nature** section also contains measures which may employ woodland creation as part of creating more areas of wildlife habitat in parks, greenspaces or other urban locations.

Code	Enabling Measures
W2.7 (EM)	Support communities to create new community woodlands, particularly in areas targeted for funding.
W2.8 (EM)	Identify/map historic/'lost' hedgerows to target their re-creation.
W2.9 (EM)	Local Authorities – adopt local planning policies which set a target for minimum canopy cover and prioritise action in areas of low tree equity (as per Woodland Trust mapping). Woodland Trust advises setting an area-wide target of 20% cover, prioritising areas of greatest need (using tree equity mapping). For development sites, Woodland Trust also recommends setting site specific targets which may be higher depending on site location and characteristics.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Hazel dormouse	W2.1
Pine marten	W2.1
Grey long-eared bat	W2.1
Greater mouse-eared bat	W2.1
A spider *Araniella alpaca*	W2.1
A spider *Centromerus albidus*	W2.1
A spider *Hygrolycosa rubrofasciata*	W2.4
A spider *Xysticus luctuosus*	W2.1
A wasp *Ectemnius borealis*	W2.1
Stag beetle	W2.1
Variable chafer	W2.3, W2.5
Pearl-bordered fritillary	W2.1

Priority assemblages of species	Measures that would be beneficial
Deciduous woodland & wood pasture fungi assemblage	W2.1, W2.3
Open parkland mature & veteran tree lichens assemblage	W2.3
Open deciduous woodland assemblage	W2.1
Woodland bats assemblage	W2.1
Woodland birds assemblage	W2.1, W2.4

Lichen on old tree stump © iStock.com/Goldfinch4ever

WOODLAND, HEDGEROWS & SCRUB

Priority: W3

Enhance and expand our urban treescapes, taking opportunities to establish new urban (and urban fringe) woodland and street trees where this will support biodiversity and deliver multiple benefits

What does success in 10 years look like?

- The presence of trees in our urban areas is increasing (as measured by tools such as the Tree Equity index, held by the Woodland Trust).
- This helps to deliver multiple benefits in these areas, such as urban temperature regulation, flood risk reduction, enhancement of landscape character and increased access to nature in parks, streets and other green spaces and biodiversity. The principles of 'right tree in the right place' is also being applied to the creation of new woodland and to tree planting projects in urban areas. Species choice for urban areas is supporting biodiversity and resilience to climate change, pests and diseases.
- Species-rich tree planting and woodland creation is encouraged in new developments through strong local planning policies.
- The treescapes of our cities and towns which have suffered losses of particular species (e.g. elm/ash) are being restored as advised by Forestry Commission to ensure future resilience.
- New woodland creation is enhancing biodiversity in urban fringe and peri-urban areas where this is compatible with other habitats and landscape character. Where possible new areas of woodland in and around towns are providing opportunities for access.
- Suitable tree species are being used in urban areas to ensure resilience to climate change (as advised by Forestry Commission and the Woodland Trust).

Young oak sapling © iStock.com/Nickbeer

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
W3.1	**Plant new street trees to deliver multiple benefits.** *Note: There are often significant practical constraints to planting trees in existing streets including presence of existing urban infrastructure which will need to be taken into consideration.* **Unmapped** 	Tree Planting. Species choice as per guidance from Forestry Commission/ Woodland Trust. Where street trees are already present, ensure planting is phased to replace 'over-mature'/ diseased and felled trees when necessary.	New streets in developments (see NPPF para 136 and National Design Guide); existing streets where planting will deliver benefits such as: wildlife connectivity (creating wooded corridors close to existing woodland); improved 'tree equity' in areas of low tree cover; increased resilience to flooding; shading/urban cooling; restoration of previous street trees and planting for succession and range of age classes in the future. Woodland Trust Tree Equity mapping tool provides a useful guide to where new street trees will deliver multiple benefits.	Gov.uk: National Planning Policy Framework (See para 136) and National Design Guide Woodland Trust: Tree Species Handbook Woodland Trust: Urban tree planting packs (currently contain crab apple, field maple, hazel, rowan and silver birch) High Weald National Landscape: Soft Landscaping Guidance **Local Case studies:** West Sussex County Council: Donate a tree scheme
W3.2	**Restore the treescape of cities and towns, particularly those that have declined through time and/or suffered loss of species (e.g. elm, ash, London plane), ensuring replacement with resilient species.** **Unmapped** 	Tree planting; colonisation; regeneration.	Streets and urban woodland areas which have experienced loss of trees; riparian zones; parklands; small linear woodlands alongside roads and footpaths; other locations beyond edges of existing woodland which will improve woodland connectivity and deliver multiple benefits.	Gov.uk: Local Authority Treescapes Fund Woodland Trust: Contact for information on tree packs for ash replacement (specific for Sussex and Kent and tailored for soil type – clay, sand, wet or chalk)

Code	Measures	How	Where	Further info/guidance
W3.3	**Establish new areas of urban and peri-urban woodland which offer multiple benefits to residents, wildlife and landscape.** **Unmapped** 	Tree planting; community tree planting projects.	Create as sites become available. Target in areas if possible which will deliver most benefits; in peri-urban areas, ensure it enhances landscape character and does not impact any existing priority habitats; follow guidance and good practice in site selection, design and species choice. *Note: These can be community woodlands and/or orchards (see measure W2.2).*	Woodland Trust: Planning your community wood Tiny Forest Earthwatch project: (website) Trees and Design Action Group: Trees in the Townscape – A guide for decision-makers
W3.4	**Bring existing urban woodlands into active management to enhance nature conservation, historic environment and access.** *(This may overlap with measures for specific woodland types above if urban woodland falls into those categories.)* **Unmapped** 	Preparation of management plan; thinning; coppicing; retention of fallen and standing deadwood; create open areas (rides, glades, scallops); encourage 'edge habitat' (ecotones) of scrub or semi-natural habitats; provision of access.	Existing area of urban woodland not already in management to enhance condition.	Woodland Trust: Urban Trees and Woodland Example of local authority tree strategies and planting guidance for the area – Crawley Borough Council's Tree Strategy: Appendix A – Tree Planting Strategy.pdf (crawley.gov.uk) Appendix B – Tree Planting Strategy Document.pdf (crawley.gov.uk)

Other core measures overlap directly with this priority and will contribute to its delivery, these include:

WOODLAND

Measures related to enhancement and creation of specific priority woodland types if relevant to the site (see priorities W1 and W2 above).

More generally, the **Urban Nature** section also contains measures which may enhance existing woodland in existing urban parks or greenspaces and the **Nature Networks** section contains measures which may involve enhancing woodland habitat within existing wildlife corridors and transport corridors in urban areas.

Code	Enabling Measures
W3.5 (EM)	Expand elm protection areas and promote biosecurity guidance on measures to reduce future spread of elm disease. *Useful guidance: Trees and Design Action Group: Trees in the Townscape – a guide for decision-makers.*
W3.6 (EM)	Adopt local plan policies for tree replacement and phased succession (i.e. young trees coming up to replace old trees felled due to disease, safety, old age etc).
W3.7 (EM)	Develop county/district level tree strategies to support delivery of tree planting targets. **Local case study example:** West Sussex Tree Plan (covers trees in county council's ownership).

Code	Enabling Measures
W3.8 (EM)	Promote best practice in species selection for new tree/woodland planting within development. *e.g. Tree species appropriate to the local area (e.g. of local provenance); ensure future-proofing against climate change/ pest and disease vulnerability.* *Examples of existing guidance: Woodland Trust: residential development and trees. Guide for Planners and Developers*
W3.9 (EM)	Promote guidance for species-selection for tree planting in gardens to provide benefits for wildlife and wider environment. *Examples of existing guidance: Woodland Trust: British Trees and Shrubs: 14 native garden trees*

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Hazel dormouse	W3.3, W3.4
West European hedgehog	W3.3, W3.4
A wasp *Ectemnius borealis*	W3.4
Stag beetle	W3.4

Priority assemblages of species	Measures that would be beneficial
Open deciduous woodland assemblage	W3.4
Woodland bats assemblage	W3.4
Woodland birds assemblage	W3.3, W3.4

WOODLAND, HEDGEROWS & SCRUB

Priority: Hdg1

Enhance, expand, restore and connect our network of hedgerows

What does success in 10 years look like?

- More hedgerows across West Sussex are being managed to improve and enhance their condition and increase their value for biodiversity (e.g. providing nesting sites, shelter, food and song posts).
- 'Lost' hedgerows (where locations are known) are being re-established, providing benefits to wildlife, greater habitat connectivity and restoration of important historic landscape features.
- New areas of hedgerow are being created to improve habitat connectivity (either as corridors or stepping-stones between woodland and grassland habitats) and deliver other ecosystem benefits. This includes hedgerow creation within new development.
- Existing hedgerows have been widened and enhanced, e.g. through gapping up or infilling with native species, coppicing or laying.
- In suitable areas, hedgerows are being managed to support target species (e.g. turtle dove require tall, thick hedgerows or scrub) as part of suite of actions to best support these species.

Hedgerow © Steve Webster

- Areas of scrub and other 'boundary habitats' are being created and managed as buffers along hedgerows (and woodlands) to create ecotones (transitional areas between adjacent habitats which support species).
- This is helping to support and enhance the historic field patterns and boundary features within the LNRS area, particularly where these are of significant landscape character value (e.g. High Weald).
- Deer management at a landscape scale is helping to support the recovery and establishment of hedgerows particularly in areas of high deer population density where this is creating a significant pressure on this habitat type.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
Hdg1.1	**Manage existing hedgerows to improve their structure, longevity and value for biodiversity.** **Unmapped**	Hedge cutting; suitable cutting cycle; gapping up with native species/ planting hedgerow trees; encourage 'edge habitats' (ecotones) of scrub/ semi-natural habitat; encourage development of hedgerow trees.	Hedgerows not in this type of management already.	Hedgelink: (website) People's Trust for Endangered Species: Tips for managing hedgerows and Hedge management Butterfly Conservation: Hedgerows for Hairstreaks LandApp: PTES Healthy Hedgerow survey now fully integrated on LandApp and LandApp mobile Weald to Waves: Healthy Hedgerows High Weald National Landscape: Hedgerows in the High Weald Landscape (Land managers pack) Sussex Wildlife Trust: Wildlife Gardening – How to manage my hedgerow for wildlife SFI option: CHRW2: Manage hedgerows Landowner advice can also be sought from Protected Landscape teams in relevant areas. Amphibian and reptile conservation: Reptile Habitat Management Handbook **Local case studies:** West Sussex County Council: Rampion hedgerow enhancement Fund

Code	Measures	How	Where	Further info/guidance
Hdg1.2	**Restore degraded hedgerows and replace 'lost' and historic hedgerows.** **Unmapped** 	Replanting stretches of hedgerow; gapping up; replanting of hedgerow trees; encouragement of 'edge habitats' (ecotones) of scrub/semi-natural habitats.	Areas of 'lost'/ historic hedgerows' (where mapping is available to guide location) and where remnants of existing hedgerows remain.	High Weald National Landscape: Hedgerows in the High Weald Landscape (Land managers pack) Amphibian and reptile conservation: Reptile Habitat Management Handbook
Hdg1.3	**Create new native species-rich hedgerows, including hedge trees where appropriate, to support habitat connectivity, enhance landscape character and deliver multiple benefits.** **Unmapped** 	Planting with five or more native woody species; hedge laying; encouragement of 'edge habitats' (ecotones) of scrub/semi-natural habitats. Include new hedgerow trees at specific spacings and intervals (this is landscape specific so must follow guidance for relevant landscape character area and protected landscape); follow historic field patterns and avoid straight lines in the landscape; use specific techniques to ensure greater success in areas of high deer population (advice available from High Weald National Landscape Team).	Locations where this will improve connectivity between woodland habitats, support landscape character and capture water and minimise runoff from land. Contact protected landscape teams in relevant area for advice.	High Weald National Landscape: Hedges Tree Council: Tree and hedge planting (guide) Capital grants option: BN11 Planting new hedges **Local case studies:** Plawhatch Farm: The Hedgerow Project
Hdg1.4	**Create new native hedgerows and enhance existing hedgerows within new development, creating important corridors for wildlife and wildlife permeable boundaries.** **Unmapped** 	Retention of existing hedgerows on site; management to enhance their condition; planting of new hedgerows and creation of edge habitats; accompany with relevant lighting restrictions where hedgerows are in important areas for night flying species (birds, bats).	All new development. But can include specific enhancement/ creation of hedgerows specific to types of development and the impacts these will have on wildlife e.g. solar farms where this measure would be particularly beneficial for bat populations.	CPRE Sussex: Biodiversity enhancements in new housing developments

Other core measures overlap directly with this priority and will contribute to its delivery. These include:

FARMLAND

FL1.5 Create and manage graded margins up to hedgerow and woodland edges on farmland, to support birds and other woodland and farmland species.

Creation and enhancement of hedgerows may play a role in how other measures are delivered on the ground. For example, Natural Flood Management (**Rivers, Streams & Aquifers** section) may use hedgerows as part of its approach on specific sites. The **Urban Nature** section also contains measures which may establish or enhance hedgerows to create more/better areas of wildlife habitat in parks, greenspaces or other urban locations. Hedgerows may also play an important role in the enhancement or creation of wildlife corridors and there are several measures within the **Nature Networks** section which are therefore also relevant.

Code	Enabling Measures
Hdg1.5 (EM)	Improve mapping of existing and lost hedgerows at Sussex scale; identify target areas for restoration and replanting.
Hdg1.6 (EM)	Adopt/encourage local plan policies to encourage use of hedgerows/natural boundaries within developments (rather than fencing) and consider lighting around hedgerows, to minimise impact and ensure that it is wildlife sensitive if areas need to be lit for public safety.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Hazel dormouse	Hdg1.1, Hdg1.2, Hdg1.3, Hdg1.4
Pine marten	Hdg1.1, Hdg1.2, Hdg1.3
West European hedgehog	Hdg1.1, Hdg1.2, Hdg1.3
Greater horseshoe bat	Hdg1.1, Hdg1.2, Hdg1.3, Hdg1.4
Grey long-eared bat	Hdg1.1, Hdg1.2, Hdg1.3
Greater mouse-eared bat	Hdg 1.1
Glow-worm	Hdg1.1, Hdg1.2, Hdg1.3

Priority assemblages of species	Measures that would be beneficial
Woodland bats assemblage	Hdg1.1, Hdg1.2, Hdg1.3, Hdg1.4

WOODLAND, HEDGEROWS & SCRUB

Priority: Scr1

Create and enhance scrub habitats, as edge habitat, as part of habitat mosaics and as a habitat in its own right

What does success in 10 years look like?

- Areas of scrub are being created and enhanced to provide valuable habitat for wildlife. In some places this is helping to support specific species such as red-backed shrike and turtle dove.
- There is a greater appreciation for scrub and how it should be managed.
- Scrub is being managed and created as a vital part of a dynamic mosaic of other habitats, such as heathland and species-rich grassland, where it helps to provide 'wilder and messy' areas which support a wider range of species. Creation of scrub is helping to expand mosaics of habitat around existing core sites. It is also a dynamic habitat within rotational management.
- Scrub is helping to create valuable transitional or edge habitat along hedgerows, woodlands, wetlands and areas of species-rich grassland.
- Scrub is recognised as a valuable habitat in its own right and as a component that helps in the restoration of other habitats.
- In parts of West Sussex, coastal scrub is being established and expanded as part of an existing coastal woodland, scrub, grassland and early successional habitat mosaic.
- As a successional habitat, scrub continues to be managed to ensure it provides the transitional type of habitat needed by many species, rather than taking over and dominating an area. The scale and extent of its creation and enhancement in the landscape is appropriate for field size and local landscape character.

Blackberries (brambles) are valuable components of scrub habitat, providing food, shelter, and nesting opportunities for a wide variety of wildlife.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
Scr1.1	**Create and enhance successional and scrub habitats to create a dynamic mosaic with diverse age and structure.** **Unmapped**	Grazing management, scarification*, and assisted sowing/planting; retention of areas of uncut grassland next to existing scrub to provide important herb layer (structural diversity and ecotone). **Definition: the removal of dead organic matter or thatch to reveal bare ground and allow germination.*	• Enhancement of areas of existing 'high-value' scrub where these can be enhanced and expanded (including areas of important juniper scrub which is a key habitat in places within West Sussex). • Creation of new areas of scrub along woodland and hedgerow boundaries, particularly on arable or improved grassland (see measure Fl 1.5 and techniques within woodland and hedgerow measures for creation of 'edge habitats'). • Creation of small areas (patches) of scrub habitat within or adjacent to open mosaic habitats, heathland or grassland where needed to provide structural diversity and habitat for species (but note that in some cases, control of scrub may be needed on areas of lowland heath, open mosaic habitats or species-rich grassland). • Enhancement and creation of scrub habitats to support specific species (e.g. turtle dove, nightingale, Duke of Burgundy etc). • Creation of scrub as a wildlife-friendly habitat in and around community spaces (e.g. as boundaries or screening).	SFI options: SCR1: Create scrub and open habitat mosaics SCR2: Manage scrub and open habitat mosaics Amphibian and reptile conservation: Reptile Habitat Management Handbook **Local case studies:** Weald to Waves: Scrubland superheroes
Scr1.2	**Control scrub where necessary along watercourses, to prevent overgrowth of habitat of importance for specific species e.g. water vole.** **Unmapped**	Grazing, browsing; cutting of scrub.	Known areas of water vole presence where scrub encroachment may be a problem.	People's Trust for Endangered Species: Helping water voles on your land

Other core measures overlap directly with this priority and will contribute to its delivery.

Scrub creation and management may play a role in creating useful edge habitat (ecotones) along woodlands and hedgerows (see measures within **woodland** and **hedgerow** priorities above).

Code	Enabling Measures
Scr1.3 (EM)	Develop guidance on scrub establishment as buffers to Ancient Semi Natural Woodland.
Scr1.4 (EM)	Raise awareness of the value of scrub as a habitat.
Scr1.5 (EM)	Work with land managers to identify and encourage best practice in scrub management.

Glow-worm © Don Baker

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
European water vole	Scr1.2
Hazel dormouse	Scr1.1
Pine marten	Scr1.1
West European hedgehog	Scr1.1
Grey long-eared bat	Scr1.1
Greater mouse-eared bat	Scr1.1
Nightingale	Scr1.1
Turtle dove	Scr1.1
Glow-worm	Scr1.1

Priority assemblages of species	Measures that would be beneficial
Woodland bats assemblage	Scr1.1

Lowland Heathland & Sandstone Outcrops

Iping Common © Sussex Wildfe Trust

LOWLAND HEATHLAND & SANDSTONE OUTCROPS

Priority: H1

Expand, enhance and better connect lowland heathland* and associated habitats

What does success in 10 years look like?

- Our core areas of lowland heathland are being managed in a way that enhances their ecological condition and prevents loss or degradation due to lack of or inappropriate management. This management is creating a diverse mosaic of vegetation and open ground and is controlling encroachment by woodland and scrub where necessary. Improved condition of these habitats is supporting lowland heathland species and creating greater resilience to the impacts of climate change and increased fire risk.

- Core areas of heathland habitat are being expanded to create larger contiguous areas of lowland heathland and associated mosaic habitats (e.g. on acidic soils, a mosaic with wet heath, bog/mire, dry heath, bare ground, acid grassland, scrub and woodland; and on chalk heath, with calcareous grassland and scrub).

- Other new areas of heathland are being created, where conditions are suitable, to create stepping stones of habitat to better connect existing sites. Opportunities are also being taken to expand and connect existing heathland through the restoration of areas of degraded and/or 'lost' heathland where these sites are known. Opportunities are also being taken to use sites such as disused minerals workings for creation of heathland habitat where conditions are suitable.

- On acidic soils, acid grassland habitat is being enhanced and created as part of the overall heathland mosaic.

- Invasive non-native species, such as rhododendron, gaultheria and deer, are being controlled where they pose a threat to areas of heathland.

- Visitor pressure at core sites (e.g. Wealden Heaths SPA) is being managed to reduce disturbance, nitrogen deposition (due to traffic levels), and other impacts on heathland species.

***This includes all forms of lowland heathland found in West Sussex e.g. dry heath, wet heath, wooded heath and chalk heathland.**

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
H1.1	**Enhance existing areas of lowland heathland through the improvement of ecological condition and structural diversity of the heathland and associated habitats (including acid grassland, wet heath and heathland ponds).** **Mapped** 	Appropriate grazing; control of invasive non-native species; scrub and bracken control/ management; tree removal; retention of areas of bare ground and creation of new areas on a rotation; creation of fire breaks; rewetting (for wet heath); management of heathland ponds to maintain their depth and hydrology; visitor management to reduce pressures on habitats/ disturbance of key species.	Existing heathland sites, particularly those not in conservation management and/or where there has been a decline in lowland heath plant species. All heathland types, including chalk heath. In West Sussex, a small area of the new Heathland Connections Nature Recovery Project sits within West Sussex and provides opportunities to work collectively on management challenges.	High Weald National Landscape: Heathland in the High Weald Landscape (Land managers pack) Buglife: Lowland Heath CHST option: CLH1: Manage lowland heathland Kent Wildlife Trust: Management of acid grassland Amphibian and reptile conservation: Reptile Habitat Management Handbook
H1.2	**Create new areas of lowland heathland and acid grassland mosaic on suitable soil, particularly where this will expand existing sites and improve connectivity between them (e.g. by creation of 'stepping stones' of new habitat).** **Mapped** 	Identify and prioritise suitable sites based on soil type, historic land use, and proximity to existing heathland; remove nutrient-enriched topsoil where necessary; for wet heath, restore suitable hydrology to the site if necessary (e.g. damming ditches or unblocking drains); creation of heathland ponds and wet flushes; control existing vegetation (e.g. grass-dominated swards, bracken or scrub) and invasive species; introduce appropriate seed mixes or allow for natural regeneration from adjacent heathland; implement grazing or mowing regimes to maintain early successional stages; create and retain areas of bare and open ground; monitor establishment success and adapt management accordingly.	Areas on suitable geology where this can help to expand or connect core sites; former areas of heathland; historic medieval forest and deer park areas (as mosaic with woodland); areas of woodland plantation on lowland heath; sites with low soil nutrient levels opportunity areas identified by Heathland Connections Nature Recovery Project (see above).	CSHT option: CLH3: Create lowland heathland **Local case study examples:** South Downs National Park Authority: Creating Heathland Stepping Stones South Downs National Park Authority: Restoring lowland heath (Heathlands Reunited project) Gov.uk: Heathland Connections Nature Recovery Project launches in Surrey

Other core measures overlap directly with this priority and will contribute to its delivery.

WOODLAND

W1.1 Deer Management (landscape scale). Undertake landscape scale deer management with targeted humane culling to reduce the impact of deer on woodland regeneration, recolonisation and ecological condition of woodland habitats.

WETLANDS & STANDING WATER BODIES

Wt1.1 Enhance remaining areas of peatland habitats by improving their hydrological function and ecological condition. Encourage expansion of existing areas where possible. This relates to the small patches of peatland habitat and 'wet heath' found within wider heathland habitat mosaics.

Code	Enabling Measures
H1.3 (EM)	Collate examples of best practice on how to manage and create lowland heathland; provide knowledge sharing/training to others on 'what good looks like'.
H1.4 (EM)	Provide landowner advice to support heathland creation in targeted areas (where this will create connectivity and expansion of existing sites); map historic heathland cover to aid targeting and awareness of historic heathland areas.
H1.5 (EM)	Facilitate collaboration across landowners/eNGOs/others to identify target areas for heathland expansion/creation at landscape scale.
H1.6 (EM)	Support heathland creation through a system to produce and supply local provenance UK bio-secure plugs and seeds.
H1.7 (EM)	Test proportionate but effective habitat monitoring utilising techniques such as rapid habitat condition assessments (with agreed methodology).
H1.8 (EM)	Adopt/support local plan policies that require mitigation for any impact of development on core heathland sites (Wealden Heaths SPA).

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Adder	H1.1, H1.2
A spider *Araniella displicata*	H1.1
A spider *Pardosa paludicola*	H1.1
A spider *Philodromus emarginatus*	H1.1, H1.2
Heath potter wasp	H1.1, H1.2
Field cricket	H1.1, H1.2
A true fly *Nephrotoma sullingtonensis*	H1.1, H1.2
Marsh clubmoss	H1.1, H1.2
Petty whin	H1.1, H1.2
Upright chickweed	H1.1, H1.2
Rusty fork-moss	H1.1, H1.2
A lichen *Cladonia rei*	H1.1, H1.2

Priority assemblages of species	Measures that would be beneficial
Breeding waders – wet grassland & heathland assemblage	H1.1
Dry heaths with sand & gravel exposures assemblage	H1.1, H1.2
Heathland birds assemblage	H1.1, H1.2

Field cricket © iStock.com/Michal Fuglevic

LOWLAND HEATHLAND & SANDSTONE OUTCROPS

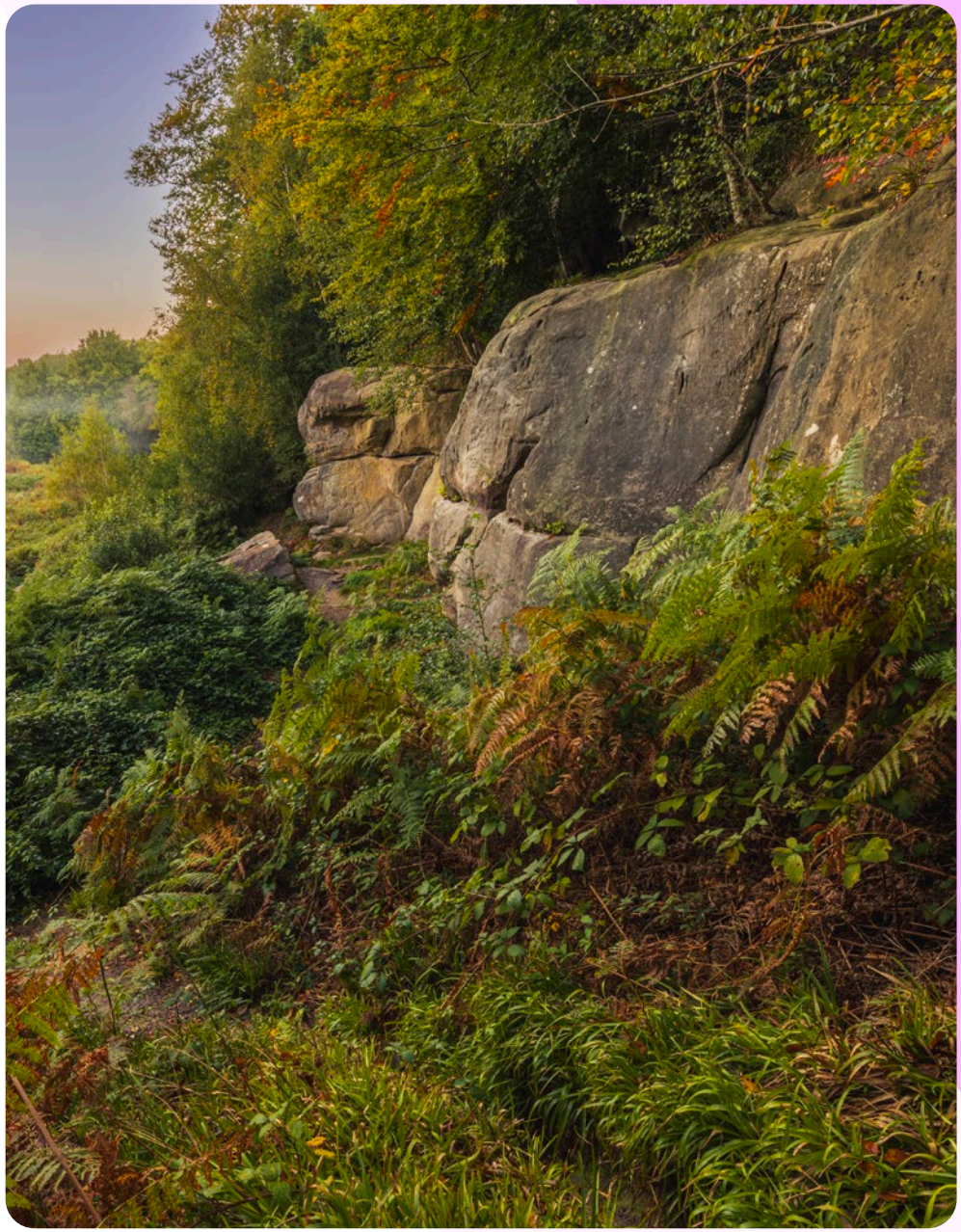
Priority: SO1 (Sandstone outcrops)

Enhance the unique biodiversity of the sandstone outcrops of the High Weald

What does success in 10 years look like?

- The sandstone outcrop habitats in the High Weald are being safeguarded and enhanced through suitable management of the surrounding vegetation to prevent overgrowth and overshading of the rare lichens, mosses and liverworts they support.

- Visitor management approaches are protecting the vulnerable plant communities on the sandstone outcrops from damage from recreational use such as climbing.



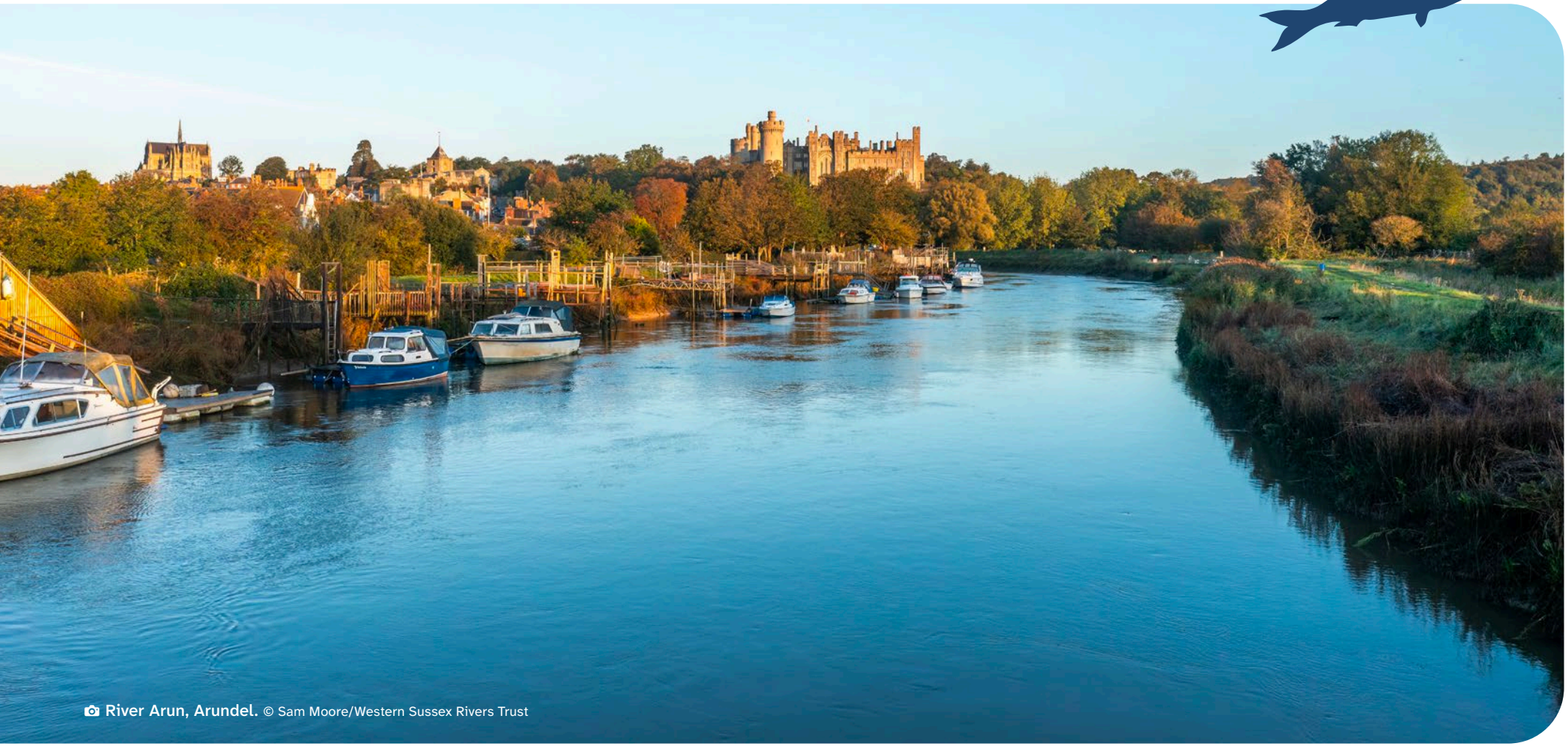
Harrisons Rocks, High Weald © iStock.com/HerbySussex

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
SO1.1	**Enhance and maintain the condition of important plant communities within sandstone outcrop sites in the High Weald.** **Mapped** 	Techniques required will depend on the type of communities and conditions found on each site (there are highly variable); ecological advice is recommended on a suitable management approach. Suitable techniques may include: management of vegetation around outcrops if present to prevent overshading whilst creating and maintaining required humid microclimate and light levels for plants, bryophytes and ferns; removal of rhododendron and other non-native species where required; sensitive removal of some natural vegetation e.g. holly, yew, scrub, bramble or bracken to adjust light levels to create/maintain dappled shade; visitor management to reduce visitor impacts on accessible sites used for climbing/access; management of other uses of these sites that would cause damage to valuable plant communities; creation of habitat buffers of sites within the farmed landscape to reduce impacts on plant communities from enrichment by agricultural runoff and fertilisers buffering of sites found on road verges to reduce impacts from vehicle damage.	Sandstone outcrop sites, particularly those supporting important plant communities. Most of these are within the High Weald. Creation of habitat buffers around sites within farmed landscape.	High Weald National Landscape: The High Weald Sandstone Project and Sandrock in the High Weald Landscape (Land managers pack) Advice can also be provided by High Weald National Landscape Team.

Code	Enabling Measures
SO1.2 (EM)	Monitor key species diversity, population and distribution on sandstone outcrops and adjust management accordingly.
SO1.3 (EM)	Work with geologists to produce geodiversity site action plans for key sandstone outcrop sites.
SO1.4 (EM)	Work with climbing clubs and organisations to minimise impacts on important sandstone outcrop sites.
SO1.5 (EM)	Produce up-to-date site dossiers for all SSSI sandstone outcrops notified for their fern, bryophyte and lichen communities (compiling information on these sites as per the Common Standards Monitoring guidance for bryophytes and lichens).

Rivers, Streams & Aquifers



River Arun, Arundel. © Sam Moore/Western Sussex Rivers Trust

RIVERS, STREAMS & AQUIFERS

Priority: R1 (Rivers and river systems)

Support the recovery of our rivers and river systems*, their health, biodiversity and natural functions

What does success in 10 years look like?

- The principle of 're-wetting the landscape' is driving activity to restore the natural functions of our catchments, increase biodiversity and deliver wider ecosystem services (which include protection of base flows in rivers and streams at times of drought, improved water quality and reduced flood risk (critical in West Sussex as part of increasing resilience to the impacts of climate change)).
- The natural functions of our rivers and streams are being enhanced and restored. The connection between our rivers and their floodplains has been increased where this is suitable. Mosaics of dynamic floodplain habitats are delivering benefits for nature and are supporting the natural function of river systems in times of flood and drought. In some places, watercourses are also being 're-naturalised' to improve their habitat and flow paths, un-doing 'straightening' and removing/adapting man-made barriers to flow and species movement. This is giving rivers and streams room to flow more naturally over a greater length.
- Networks of habitats (e.g. woodlands, trees, scrub, grasses and water dependent vegetation) in our riparian zones are supporting biodiversity and providing greater habitat connectivity along our river corridors. These 'functional habitats' are also delivering important benefits for our river systems, improving water quality, regulating flow of water off the land and supporting base flows in our river systems. Targeted use of 'Natural Flood Management' (NFM)[5] is helping to create these habitats as part of a set of wider actions which store water in the landscape and slow its flow.

* *River systems include rivers and their network of tributaries, streams and channels. The measures in this section include all streams, with additional measures specifically for chalk streams under R2 below.*

5 NFM techniques include: planting cross-slope hedgerows; planting or allowing regeneration of cross-slope, riparian and floodplain habitats; installing leaky dams across flow pathways and in channels; digging or de-silting ponds; soil restoration and conservation; encouraging rougher vegetation and buffer strips; intercepting surface water with swales and sediment traps; ditch management/reprofiling; increasing seasonal storage through creation of scrapes, rills and wetlands through opening up floodplain washlands and restoring meanders; coastal and river flood defence re-alignment SDNPA (2017).

- Pollution of the aquatic environment is being reduced through targeted work to reduce harmful inputs and more beneficial land management practices, particularly in areas vulnerable to high nutrient and sediment loads. Farmers and landowners are being supported in this through advice and access to relevant funding schemes.

- Sustainable Drainage Systems (SuDS) and constructed wetlands are being used to treat contaminated surface water and discharges and are also reducing the impact of road and urban runoff on rivers and aquifers, particularly in areas of high risk.

- The level of shade along our rivers, streams and standing water bodies is being managed to create optimum balance of light and shade for aquatic biodiversity and to reduce the impact of climate change on water temperature where this is required. This may involve creation of new riparian vegetation where shade is required or management/removal of existing vegetation where it is causing excess shading.

- Catchment scale work is being targeted to eradicate and control Schedule 9 Wildlife & Countryside Act invasive non-native species that pose a threat to freshwater ecosystems and species, particularly in areas of most concern. Work in West Sussex is contributing to the region-wide ambition to eradicate American mink in the South East of England (Waterlife Recovery Trust).

- Willing landowners and farmers understand areas of potential beaver suitability, and the available grants and potential benefits of beaver reintroductions should their land be suitable.

- Across West Sussex, a catchment-based approach involving Environment Agency, farmers and land managers, protected landscapes, water companies, local authorities and communities is driving a targeted and collaborative approach to action which benefits our river systems.

River Adur © Ben Rainbow

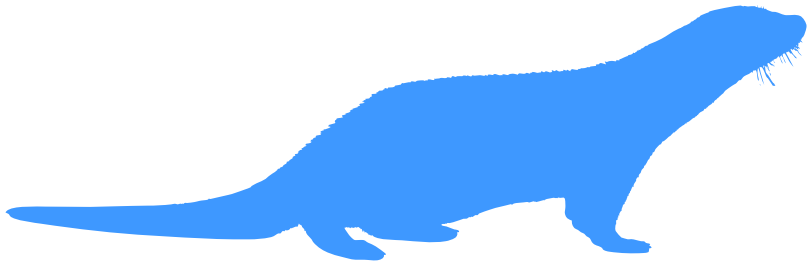
Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Note: measures R1.1, R1.2 and R1.3 can often be delivered together as a package of measures as part of a river restoration approach.

Code	Measures	How	Where	Further info/guidance
R1.1	**'Renaturalise' and reconnect rivers to their floodplains, allowing water to spill naturally onto adjacent land and restoring, expanding and better connecting floodplain habitats (such as wet grassland, fen, marsh and wet woodland). This will support biodiversity, increase ground water recharge and provide flood attenuation.** **Mapped** 	A suite of techniques can be used for this, such as: • Lowering height and gradient of banks, removing or realigning embankments; • Removing culverts to 'daylight' stretches of rivers and streams; • 'Rewiggling' (undoing straightening/ restoring meanders); • Reconnecting old side channels; • Increasing habitat variety through retention/ increase of natural structures such as leaky dams and letting fallen trees remain in situ; • Removal of hard engineering, including artificial bank and bed protection; • Removal/de-commissioning of pumps (previously used to reduce water levels); • Rewetting fields to encourage new wetland and grassland habitats; • Implementation of a 'Stage 0' approach (where suitable) thinking beyond the river channel itself and working to restore the river to its 'pre-disturbance' state; • Beavers may play a role in implementation of this measure where sites are suitable and landowners and communities are supportive of their reintroduction. Any future reintroduction of beaver must be underpinned by a funded long-term management plan and carried out under license and as per licensing requirements.	Areas of river/floodplain where this is both feasible and desirable e.g. where it does not conflict with land protection or flood mitigation requirements. This measure will result in a change of land use/habitat in affected areas (e.g. where drained farmland reverts to floodplain) and therefore these changes must be factored into any projects. Target this activity using best available information from e.g. Environment Agency and Catchment Management Plans and via engagement with landowners. *Note: That in tidal reaches of rivers, this may include creation of saltmarsh where conditions are suitable (see also coastal measure C1.3 above).* R1.1 will be effective when delivered as part of a package with improvement of 'in-river' habitat connectivity and restoration of 'in-river' habitat (i.e. measures R1.2 and R1.3 below).	The River Restoration Centre: RRC Guidance Documents CSHT options: CSW22: Connect river and floodplain habitats CSW12: Make room for the river to move **Local case studies:** Adur River Recovery: (Project website) Wild Trout Trust: River Rother Project (Leconfield Estate) National Trust: Woolbeding reimagined conservation project (River Rother, West Sussex)

Code	Measures	How	Where	Further info/guidance
R1.2	**Improve 'in-river' connectivity for species through removal of barriers to fish passage and natural flows of water and sediment.** **Mapped** 	• Removal of barriers to fish passage and aquatic organisms (including weirs and culverts), where this is possible. • Retrofitting of structures to include fish passes. • Removal of redundant concrete water gauging. **Any proposals to connect 'in-river' or that may impact hydrology of a protected site need consultation with Natural England.** In such cases, it is likely that a hydrological assessment and modelling will be needed in advance, plus appropriate monitoring.	Areas of river/floodplain where this is feasible. Target removal of those barriers which block greatest amount of river and priorities identified by e.g. Environment Agency and Catchment Management Plans. Effective as part of a package with re-naturalisation and restoration of 'in-river' habitat (R1.1 and R1.3).	Environment Agency: Improving river habitats to support wildlife during high and low flows **Local case studies:** Ouse and Adur Rivers Trust: Breaking Barriers
R1.3	**Manage, restore and enhance 'in river' and riparian habitat to support biodiversity, the natural function of the river/ stream and temperature regulation in the face of climate change.** **Mapped** 	• Encouragement of in-channel vegetation (macrophytes) (e.g. by bank-regrading, creation of in-channel features such as berms and bars). • Use of large wood structures, in-channel flow deflectors and other approaches to create variation in flow. • Creation of mammal ledges. • Reduction of fragmentation of river habitats. • In-river channel enhancements such as: channel pinching; addition and cleaning of gravels in sections of rivers/streams where sediment or other impacts are affecting habitat function such as impacting fish spawning. • Management and / or planting of riparian woodland and bankside trees to control shading as required (creation of scrub not advised as this may end up 'tunnelling' the river); coppicing of bankside trees to allow more light into shaded sections of over-shaded river.	Suitable for widespread implementation but effective as part of package with removal of fish barriers and re-naturalisation (R1.1 and R1.2).	Environment Agency: Improving river habitats to support wildlife during high and low flows The Rivers Trust: Woodlands for Water Wild Trout Trust: Trees and Rivers CSHT option: CSW25: Manage riparian and water edge habitats

Code	Measures	How	Where	Further info/guidance
R1.4	**Enhance aquatic and riparian habitat within ditches connected to the river network.** **Unmapped**	Managing vegetation on one side of the ditch only during each operation; removing vegetation by cutting above the base; allowing vegetation to re-establish by natural regeneration etc. Ensure larger ditches are more open than those off the 'main drain' which can be more vegetated.	All ditches.	SFI option: WBD2: Manage ditches CSHT option: CWT3: Manage ditches of high environmental value **Local case studies:** Manhood Wildlife and Heritage Group: Fixing and Linking our Wetlands Project (FLOW project)
R1.5	**Deliver Natural Flood Management (NFM) interventions across catchments, targeting areas where this will deliver multiple benefits and provide greatest benefit to communities at risk of flooding.** **Unmapped**	NFM includes a range of techniques including planting cross-slope hedgerows; planting or allowing regeneration of cross-slope, riparian and floodplain woodlands; installing leaky dams across flow pathways and in channels; digging or de-silting ponds; soil restoration and conservation; encouraging rougher vegetation and buffer strips; intercepting surface water with swales and sediment traps; ditch management/reprofiling; increasing seasonal storage through creation of wader scrapes; wetland creation through opening up floodplain washlands and restoring meanders; coastal and river flood defence realignment. Beavers may play a role in implementation of this measure where sites are suitable and landowners and communities are supportive of their reintroduction. Any future reintroduction of beaver must be carried out under license and as per licensing requirements.	Where information available, target areas mapped by Catchment Management Plans and Environment Agency as suitable for NFM.	South Downs National Park Authority and Sussex Flow Initiative: Natural Flood Management: A practical guide for farmers and landowners of the Solent and South Downs. **Local case studies:** Sussex Wildlife Trust: Wilder Ouse (previously Sussex Flow Initiative)



Code	Measures	How	Where	Further info/guidance
R1.6	**Create and manage permanent vegetation buffer strips alongside rivers and streams to support biodiversity and intercept and reduce levels of pollutants (such as nutrients, chemical pollutants, veterinary chemicals, excessive sediment) reaching watercourses.** **Mapped** 	Creation of permanent vegetation buffers (grassland, wetland, hedgerows, trees, others). For farmland, buffer size to be suitable for site, field size and landscape scale. For grassland buffers, there is a recommended width under ELMS schemes >6m (SFI) and 12-24m (arable land at high risk of erosion). Habitats created or enhanced should be appropriate to the local area in terms of habitat, soil type and landscape.	This is good practice along all watercourses but is particularly important in the following cases: • watercourses in an agricultural setting (arable and pasture); • priority watercourses e.g. chalk streams, wood gills; • those located in source protection zones and nitrate vulnerable zones; • those in upper catchments.	SFI option: BFS1 12m to 24m watercourse buffer strip on cultivated land
R1.7	**Create nature-based interception features (e.g. ponds, swales, wetlands) as part of a package of actions to prevent runoff from roads and highways entering watercourses.** **Unmapped** 	Creation of ponds, swales or wetland to capture runoff; ongoing maintenance and treatment of water within these features to reduce the presence of pollutants which may be harmful to wildlife (guided by ongoing monitoring of pollutants). Seek technical and ecological advice on suitability. May need to be part of a wider package of measures to capture and remove sediment and other pollutants before it reaches the nature-based feature.	Not on the aquifer/source protection zones due to risk of pollution of the aquifer unless permitted by EA/water companies (due to increased risk that these may increase pollution of groundwater). Nature-based features alone may be suitable for low-traffic roads where level of pollutants in runoff are less; on motorways, trunk roads or those with high congestion levels, other interventions will be required to remove sediment/ pollution before it enters a nature-based feature.	CIWEM and Stormwater Shepherds: Highway runoff and the water environment

Code	Measures	How	Where	Further info/guidance
R1.8	**Reduce the impact and spread of invasive non-native species (INNS) on freshwater habitats (rivers, streams, wetland sites, standing water bodies).** *Note: Key species of concern across freshwater habitats in West Sussex include:* *On the banks: Himalayan balsam; American skunk cabbage; giant hogweed; Japanese knotweed; Rhododendron ponticum* *In the water: floating pennywort; parrots feather; water fern; New Zealand pygmyweed; Elodea species; Lagarosiphon major (curly waterweed); signal crayfish; Chinese mitten crab; Asian clam; Chinese mystery snail; American mink.* **Unmapped**	Techniques used will depend on species, distribution and efficacy of management approaches.	Initial focus on 'target areas' where concentrations are high and/or the sites may be acting as a source of spread. Presence of species in the Ouse catchment by waterbody has been mapped and a strategy produced for tackling their impact at a catchment scale. For some species, it is recommended to start from headwaters and work downstream. For others, the species may be spreading from tidal reaches. Advice on best approach can be sought from relevant Catchment Partnerships. For efforts to control American mink: this work should form part of existing regional eradication efforts in South East England.	GB Non-native species secretariat: Information hub Ouse & Adur Rivers Trust: Sussex Ouse non-native invasive species project (see control techniques) **Local case studies:** Ouse & Adur Rivers Trust: Sussex Ouse non-native invasive species project

Other core measures overlap directly with this priority and will contribute to its delivery.

RIVERS, STREAMS & AQUIFERS

A1.1 Create high quality Sustainable Drainage Systems (SuDS) to reduce storm overflows, support ground water quality and encourage groundwater recharge/infiltration where required.

A1.2 Implement land management practices, habitat creation and management to support ground water recharge and reduce levels of nutrients (nitrates/phosphates) and other pollutants reaching groundwater. This includes buffering karst features.

COASTAL

C1.3 Create new areas of intertidal saltmarsh and mudflat, in locations where it is likely to be resilient to future climate pressures.

URBAN NATURE

U1.3 ‘Re-naturalise’ stretches of urban rivers/streams to support biodiversity and natural processes, where this is feasible and aligns with flood risk approaches. Provide access along these stretches where possible to better connect people to urban rivers/streams.

Code	Enabling Measures
R1.9 (EM)	Work collaboratively to design a data and monitoring system (including identifying data gaps) to provide more information on the health of our rivers and streams in Sussex, how and where to target interventions and monitor their effectiveness.
R1.10 (EM)	Coordinate engagement across catchments with landowners, farmers, water companies with existing and new initiatives to achieve enhancements in water quality. Support this with a database of opportunities for delivery for use by all sector delivery partners.
R1.11 (EM)	Develop a coordinated approach to tackling INNS within each catchment, based on collated best practice and working across partners. **Local case study example:** Sussex Ouse Non-native species project
R1.12 (EM)	Encourage local plan policies to require buffer zones along streams, rivers and ponds within new development, in order to reduce flood risk and runoff from development.
R1.13 (EM)	Identify sources/pathways/receptors of river pollutants and provide guidance on suitable action to take (e.g. reduce or buffer inputs). Pollutants could be of different types (e.g. plastic, litter, chemicals, nutrients, silt and sediment, sewage etc) and from a range of sources including urban areas, industrial sites, highly mobile soils, roads, or farming. Guidance will be needed for all sectors.
R1.14 (EM)	Raise awareness of the pressures on rivers and watercourses, with identifiable actions for businesses, local government and residents to take to reduce pressures and support water quality, low base flows, the structure and form of rivers and streams (e.g. side bars, pools, glides, vegetation, woody debris, riparian habitats etc), flood risk and biodiversity.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Beaver	R1.1, R1.3, R1.5
European water vole	R1.1, R1.2, R1.3, R1.3, R1.4, R1.5, R1.6, R1.8
Otter	R1.1, R1.2, R1.3, R1.4, R1.6
Dark-bellied brent goose	R1.1
Marsh harrier	R1.1, R1.5
White-tailed eagle	R1.1
White-clawed crayfish	R1.2, R1.3, R1.4, R1.6, R1.8
Swollen spire snail	R1.1
Lesser marshwort	R1.4
Great tassel stonewort	R1.4

Priority assemblages of species	Measures that would be beneficial
Breeding waders – wet grassland & heathland assemblage	R1.1
Coastal grazing marsh & upper saltmarsh assemblage	R1.1
Breeding & migrating/winter shore birds assemblage	R1.1
Streams & rivers assemblage	R1.1, R1.2, R1.3, R1.4, R1.5, R1.6, R1.8
Woodland bats assemblage	R1.1, R1.3

Water vole © iStock.com/Rachel Bennett

RIVERS, STREAMS & AQUIFERS

Priority: R2 (Chalk streams)

Support the recovery and resilience of our chalk streams and their unique biodiversity

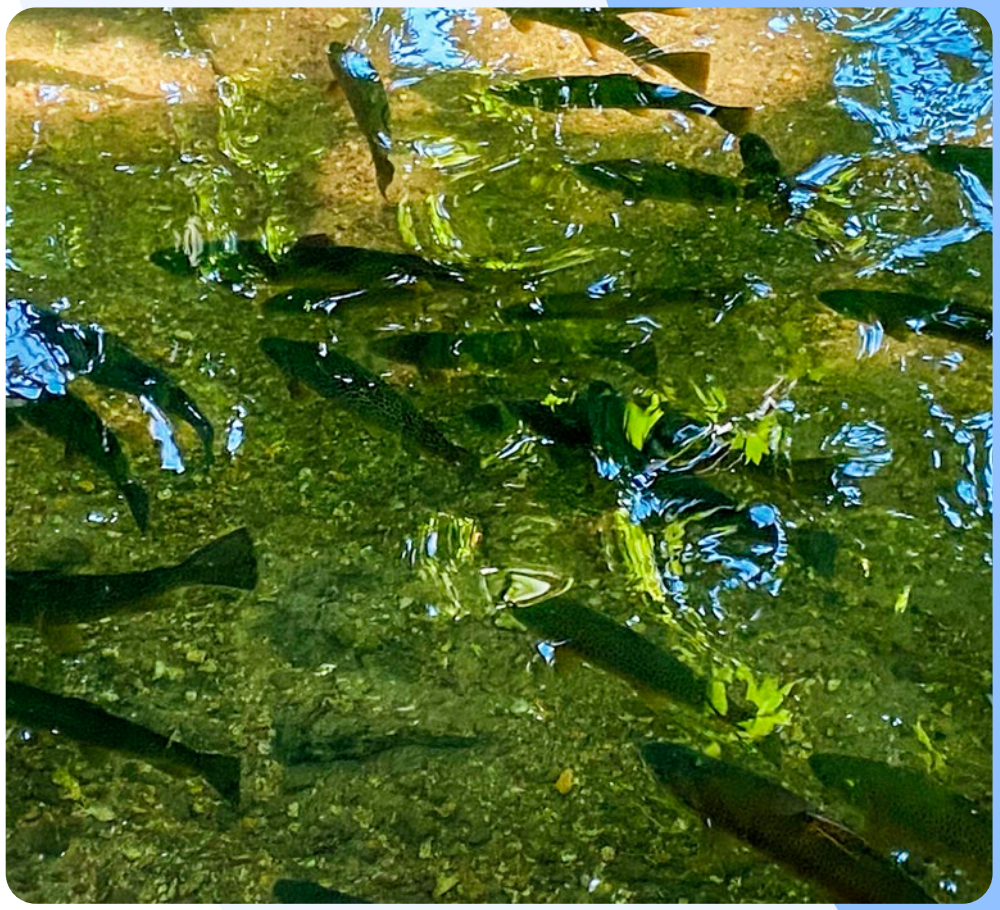
What does success in 10 years look like?

- For the small, chalk streams which emerge from the steep scarp slope of the chalk downs, effort has been focused on safeguarding these streams from physical modification and retaining and enhancing their natural chalk stream characteristics.

- Where necessary, the natural functions of chalk streams have been increased through actions to restore the following: stream slope (improving longitudinal connectivity); an intact gravel bed; dynamic interaction with fallen trees and living riparian trees; interaction with the floodplain (lateral connectivity); ecological processes and habitats that support their key species (fish, insects, mammals and plants).

- Chalk streams are benefitting from sensitive land use within the wider catchment and are buffered from pollutants, supporting recovery of water quality. In particular, actions have been taken to reduce sediment load entering these streams.

- Winterbournes (seasonally flowing chalk streams) have been identified and there is greater awareness of their presence and function. Efforts have been focused on retaining and restoring these streams where required.



Numerous fish in chalk stream © iStock.com/ChrisAt

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:
Note: These are in addition to standard measures for rivers/streams in R1 above and are specific to chalk streams which are of particular importance within West Sussex.

Code	Measures	How	Where	Further info/guidance
R2.1	**Restore chalk streams and winterbournes to support base flows, water quality, natural functions, aquatic habitats and biodiversity.** **Mapped** 	Beneficial actions may include: • Restoration of lost/former channels where known; • Restoration of meanders and gradient; • Removal of culverts and other barriers which may be impacting sedimentation, low flows and longitudinal connectivity; • Expansion of wet and floodplain margins; • Creation of buffer habitat and to intercept pollutants; • Management of shade from riparian vegetation to create optimal light/shade conditions for macrophyte development; • Retention/establishment of natural leaky large wood structures.	Target all chalk streams and winterbournes (given their rarity and fragility). Specifically target those streams at greatest risk of low base flows in summer/drought periods, those experiencing low ecological condition or under pressure from high nutrient/ pollution levels and those where channels have been modified and where there is potential to 'renaturalise' them. In West Sussex: focus specific efforts on the more pressurised chalk streams emerging from the dip slope into the coastal plain (including River Ems, Lavant and Bosham streams).	Catchment based approach: Chalk Stream Restoration Strategy 2021 Chalk Streams.org: Chalk Streams – England's freshwater marvel Sussex Wildlife Trust: Chalk Streams **Local case studies:** Western Sussex Rivers Trust: Chalk Stream Resilience. Environment Agency Blog: Broadwater Brook urban chalk stream restoration

Other core measures overlap directly with this priority and will contribute to its delivery

RIVERS, STREAMS & AQUIFERS

R1.8 Reduce impact and spread of invasive non-native species on freshwater habitats (rivers, streams, wetland sites, standing water bodies).

Measures to support groundwater recharge and water quality of the aquifers will also support chalk streams, for example:

A1.2 Implement land management practices, habitat creation and management to support ground water recharge and reduce levels of nutrients (nitrates/phosphates) and other pollutants reaching groundwater. This includes buffering karstic features.

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

Code	Enabling Measures
R2.2 (EM)	Agree Targets and Environmental Flow Indicators to support the environmental quality of chalk streams, winterbournes and greensand streams in West Sussex. Abstraction levels are within these targets.
R2.3 (EM)	Increase/restore monitoring and testing of chalk and greensand streams.
R2.4 (EM)	Develop more accurate mapping for location of chalk and greensand streams to support decision-making (including planning).
R2.5 (EM)	Adopt Local Plan/Development Policies to reduce impacts on chalk and greensand streams from development (water levels, water quality, shape/form etc).

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
European water vole	R2.1
White-clawed crayfish	R2.1
Crystal moss-animal	R2.1

Priority assemblages of species	Measures that would be beneficial
Streams & rivers assemblage	R2.1
Woodland bats assemblage	R2.1

RIVERS, STREAMS & AQUIFERS

Priority: A1 (Aquifers)

Support the health and function of our aquifers

What does success in 10 years look like?

- Larger areas of priority habitats on our aquifers and particularly within the priority catchment areas of water companies are being managed to restore and enhance their ecological condition and deliver key ecosystem services including the recharge of the aquifer and protection of groundwater from pollution. On the chalk aquifers, in many cases this will mean enhancing and restoring chalk grassland and associated habitats (including arable reversion).

- The restoration and expansion of priority habitats in key areas for groundwater protection is also taking place, again to support biodiversity and aquifer function.

- Localised areas of 'interception' and buffering habitat are being created around karst features[6] to reduce risk of ground water pollution.

- Impacts on ground water quality and recharge from runoff are being reduced through the use of Sustainable Drainage Systems (SuDS), 'rainscapes' and rain gardens where appropriate; these are providing additional habitat and space for water.

- Landowners and farmers are being supported to reduce water usage and increase water sustainability and resilience.

- Communities living on the 'chalk block' are informed and engaged in activities to support the aquifer, such as reducing demand for water, water-friendly gardens, creation of raingardens, schools projects etc.

Jubilee Country Park in Chichester which operates as a Sustainable Urban Drainage System (SuDS).
© Don Baker

6 In West Sussex, these are features in the chalk caused by erosion – (e.g. streamlines, dolines (sinkholes), dissolution pipes and springs). These can cause rapid infiltration of surface water containing pollutants to enter the aquifer.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
A1.1	**Create high quality Sustainable Drainage Systems (SuDS)[7] to reduce storm overflows, support ground water quality and encourage groundwater recharge/infiltration where required.** **Unmapped** 	Various types of SuDS depending on purpose: swales and conveyance channels; filtration; infiltration; retention and storage; wetland, inlets, outlets and control structures. Specific examples include green roofs, permeable paving, rain gardens, tree planting, swales, ponds, infiltration basins and soakaways.	Widespread but only in areas suitable for creation of SuDs (which depends on factors such as underlying geology, proximity to Ground Water Source Protection Zones (where SuDS may risk contaminating water resources), topography, flood risk, archaeology, landscape etc). See maps identifying local 'SuDS Suitability Scores' for information.	Gov.uk: National standards for sustainable drainage systems (SuDS) Susdrain: Water, People, Places: a guide for master planning sustainable drainage into development (Aecom) Susdrain.org: website WWT and RSPB: Sustainable Drainage Systems: a guide for local authorities and developers **Local case studies:** Greener Hassocks & Ditchling: Flood and SuDS project
A1.2	**Implement land management practices, habitat creation and management to support ground water recharge and reduce levels of nutrients (nitrates/phosphates) and other pollutants reaching groundwater. This includes buffering karst features.** **Unmapped** 	Restoration of ponds/dew ponds; habitat creation and enhancements; reduced use of chemical inputs (herbicides and pesticides); use of cover crops; identifying and buffering karstic features.	Source Protection Zones; Nitrate Sensitive Areas; Sussex North Water Supply Zone (StatMap Earthlight). South East Water: strategy for habitat creation and NbS in SPZs (to be drafted during course of this LNRS). Environment Agency's Nitrate Leaching Tool to measure how much nitrate is lost from farmed land.	Gov.uk: Nitrate Vulnerable Zones – Nitrate vulnerable zone designations and appeals 2025 to 2028 Gov.uk: Groundwater source protection zones (SPZs) Contact water companies who can provide direct advice for landowners.

7 SuDS are drainage systems designed to manage surface water runoff. When designed well, they can deliver a range of benefits which include reduction of surface water flooding, replenishment of ground water supplies, creation of new habitat, filtering of pollutants preventing them reaching water courses, and creation of valuable amenity greenspaces for communities to enjoy. (Aecom and Lead Local Flood Authorities of the South East of England. Water. People. Places. A guide for master planning sustainable drainage into developments).

Other core measures overlap directly with this priority and will contribute to its delivery

Measures within the **Species-rich Grassland** section to create and enhance chalk grassland habitat will most likely be located on chalk geology and thus may support ground water quality and aquifer recharge. Measures that relate to **Farmed Landscape & Soils**, **Urban Nature** and **Nature Networks** will also be relevant. These include:

FARMED LANDSCAPE & SOILS

FL1.1 Create permanent, species-rich and/or structurally diverse grass blocks, strips, margins or headlands to support pollinators and other wildlife.

SL1.1 Implement farming techniques that improve soil health and biodiversity.

SL1.3 Reduce pesticide and fertiliser inputs, particularly within Nitrate Vulnerable Zones and Source Protection Zones.

SPECIES-RICH GRASSLAND

G1.1 Enhance existing areas of species-rich lowland calcareous (chalk) grassland, maintaining and improving its quality, diversity of species, suitable sward height and structure.

G1.2 Create new areas of calcareous (chalk) grassland, particularly where this will expand existing sites and improve connectivity with existing sites and improve connectivity with existing areas of chalk grassland and related chalk habitats (such as chalk heath).

URBAN NATURE

U1.1 Create new accessible natural greenspaces in urban areas, designed and located to deliver multiple benefits for people and nature.

NATURE NETWORKS

PS1.2 Create new areas of habitat on land adjacent to protected sites, thus expanding the total area of connected wildlife habitat in and around protected sites.

PS1.3 Implement sensitive land use in areas adjacent to existing protected sites to reduce pressures on the sites and their habitats/ species.

Code	Enabling Measures
A1.3 (EM)	Community engagement projects to support delivery of actions to support the aquifer (e.g. via residential gardens, creation of raingardens in schools/public spaces etc). **Example:** The Aquifer Project, West and East Sussex.
A1.4 (EM)	Adopt planning policies for new developments to incorporate SuDS where possible and appropriate to support improvement of ground water quality.

Wetlands & Standing Water Bodies

Lapwing © iStock.com/CreativeNature_nl

WETLANDS & STANDING WATER BODIES

Priority: Wt1 (Wetland habitats)

Restore and enhance our existing wetland habitats* and create new wetlands particularly where this will expand and connect existing sites

What does success in 10 years look like?

- More of our existing wetland sites are in positive management, resulting in improved ecological condition, sufficient water levels and reduced threat from invasive species.

- Measures to support river systems and aquifers (R1 and A1) are supporting the hydrological function of our wetlands, which is increasing their resilience in the face of climate change.

- Our large, iconic wetland sites are improving in their condition through measures beyond their boundaries to increase the area of contiguous and stepping stone habitat, improving connectivity and reducing pressures from poor water quality and insufficient water levels.

- Our most fragile and vulnerable wetland habitats such as fen, bog and mire, marsh, reedbed, coastal and flood plain grazing marsh are being managed to restore their hydrological function and ecological condition. In many cases, this has meant removing artificial drainage, preventing nutrient enrichment and removing encroaching vegetation where required. Areas of these habitats are expanding where conditions and water levels permit.

- Areas of wet grassland and water meadow have been increased and expanded and are supporting associated species such as waders and wildfowl. Water vole populations in these wetland areas are also increasing thanks to improved habitat connectivity and control of American mink.

- Floodplain habitats and wet woodland areas have been created as part of the wider restoration of floodplain function. More generally, our wetlands are delivering a range of wider environmental benefits. By increasing the storage of water in the landscape they are contributing to reduced flood risk, improved water quality, improved base flows in our rivers in times of drought and carbon storage.

- Harmful impacts from flooding, surface water runoff and combined sewer overflow discharges are being mitigated and reduced through nature-based solutions. Natural Flood Management (NFM), nature-based Sustainable Drainage Systems (SuDS) and Integrated Constructed Wetlands (ICWs) are creating benefits for nature while delivering more space for water alongside benefits for reducing flood risk, pollution and improving water quality.

- Defunct infrastructure which is inhibiting wetland expansion is being removed (e.g. sluices, field drainage etc.)

**Where wetland includes reedbeds, coastal/floodplain grazing marsh and our small areas of peatland habitat such as bog, mires, wet heath and fen.*

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
Wt1.1	**Enhance remaining areas of peatland habitats by improving their hydrological function and ecological condition. Encourage expansion of existing areas where possible.** **Mapped** 	Identification of the hydrology of the site and its functional boundaries; restoration of hydrological regimes and water table (e.g. by blocking drains); manage vegetation to remove non-typical wetland species; remove trees where the site has dried out and trees have been planted/ colonised; influence surrounding land use to support water levels and reduce pollution; create wetland buffer for the site.	All existing peatland habitats in West Sussex (lowland fen, lowland bog, mire). Note that many are found within heathland habitat mosaics (see Priority H1).	Natural England (NERR 064): A narrative for conserving freshwater and wetland habitats in England Natural England: Climate Adaptation Manual (NE751) – See Lowland raised bog PDF and Lowland fens PDF CIEEM: Fen Management Handbook
Wt1.2	**Enhance existing areas of reedbed to improve ecological condition and function and delivery of wider environmental benefits.** **Mapped** 	Maintain water levels at a high and stable level or restore to these levels if required; manage the habitat to maintain all stages of succession (young reedbed to older reedbed), structural and species diversity; grazing; cutting if necessary should be on a long rotation; scrub control to prevent encroachment but retaining some scrub in places to support biodiversity.	Enhance all existing areas.	Catchment Based Approach: Reedbeds Biodiversity Habitat Guide CSHT option: CSW25: Manage riparian and water edge habitats
Wt1.3	**Create new areas of reedbed, particularly where this will expand and connect existing sites and/or deliver wider environmental benefits (such as improvement of water quality).** **Unmapped** 	Groundworks to create suitable ground and water condition; establish reed vegetation; manage water levels and supply; vegetation management to control any opportunistic/invasive species.	Create new reedbeds where soils and hydrology are suitable within floodplains, estuaries, lake edges and reclaimed industrial sites such as gravel pits/quarries.	CSHT option: CWT14: Create fen, reedbed or wetland mosaics

Code	Measures	How	Where	Further info/guidance
Wt1.4	**Manage existing areas of floodplain grazing marsh (including coastal floodplain grazing marsh) to enhance the ecological condition of its mosaic of habitats and ditches.** **Mapped**	Manage to create variety of vegetation height and density (including bare ground, patchy scrub, temporary pools); maintain light grazing and/or cut for hay/ silage; prevent scrub invasion; maintain drainage ditches to provide a range of successional stages of vegetation and a rotational approach to ditch cleaning. This will support the value of the ditches for aquatic and water margin fauna; manage water levels to maintain high water levels in ditches throughout the year; for coastal floodplain grazing marsh manage saline incursion and flooding; create varied ditch profiles; maintain water quality by reducing nutrient input from fertilisers.	All existing coastal floodplain grazing marsh; other floodplain grazing marsh along rivers.	Buglife: Coastal and floodplain grazing marsh and Grazing Marsh Ditches
Wt1.5	**Enhance existing areas of lowland wet grassland habitats to improve ecological condition and delivery of wider environmental benefits.** *Note: This refers to those areas of grassland that are periodically inundated and not considered to be floodplain grazing marsh (which tends to be drained for grazing). It may include floodplain wetland mosaic, washland grasslands, wet pasture and wet meadow.* **Unmapped**	Manage water levels to allow/enable seasonal shallow flooding (inundation) of grassland in winter/spring; create areas of standing water and wet features (e.g. scrapes and pools); graze (low levels) or cut for hay; avoid use of fertilisers, slurry or manure; use of green hay to enhance grassland species diversity.	Existing areas of wet grassland, particularly that in poor ecological condition and where actions to restore seasonal inundation will be possible.	Catchment Based Approach: Biodiversity Habitat Pack – Wet grasslands River Restoration Centre: Creating Floodplain Wetland Features – floodplain wetland mosaic Freshwater Habitats Trust: Floodplain grassland restoration Natural England: A narrative for conserving freshwater and wetland habitats in England (NERR064) CSHT option: CGS19: Manage wet grassland for wintering waders and wildfowl

Code	Measures	How	Where	Further info/guidance
Wt1.6	**Create new areas of lowland wet grassland habitats, particularly where this will expand and connect existing wetland habitats and deliver wider environmental benefits.** *Note: This refers to those areas of grassland that are periodically inundated and not considered to be floodplain grazing marsh (which tends to be drained for grazing). It may include floodplain wetland mosaic, washland grasslands, wet pasture and wet meadow.* **Unmapped**	Restoration of hydrological conditions; use of "re-wetting" techniques to raise water levels (e.g. drain blocking); consider creating variations in landform (hollows, channels etc.) to allow water to build up on the surface; manage water levels in winter to (where possible to do so) to retain water on the site; graze/cut to create suitable sward conditions.	Existing areas of low input grassland or species-rich grassland in sites with potential for water level control/ flooding in winter.	Catchment Based Approach: Biodiversity Habitat Pack – Wet grasslands

Emerald damselfly © Ben Rainbow

Other core measures overlap directly with this priority and will contribute to its delivery.

RIVERS, STREAMS & AQUIFERS

R1.8 Reduce impact and spread of invasive non-native species on freshwater habitats (rivers, streams, wetland sites, standing water bodies).

A1.1 Create high quality Sustainable Drainage Systems (SuDS)[8] to reduce storm overflows, support ground water quality and encourage groundwater recharge/ infiltration where required.

Code	Enabling Measures
Wt1.7 (EM)	Map historical wetland sites to identify potential reinstatement of wetlands.
Wt1.8 (EM)	Identify the vulnerability of wetland sites to climate change and what this will mean for water level management/ resilience into the future. *Note the results of SSSI risk/vulnerability assessments for wetland sites once published.*

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
European water vole	Wt1.1, Wt1.2, Wt1.3, Wt1.4
Grey long-eared bat	Wt1.4, Wt1.5, Wt1.6
Dark-bellied brent goose	Wt1.4, Wt1.5, Wt1.6
Marsh harrier	Wt1.2, Wt1.3, Wt1.4, Wt1.5, Wt1.6
White-tailed eagle	Wt1.4, Wt1.5, Wt1.6
A spider *Hygrolycosa rubrofasciata*	Wt1.1
A spider *Pardosa paludicola*	Wt1.1
Emerald damselfly	Wt1.4, Wt1.5, Wt1.6
Swollen spire snail	Wt1.4, Wt1.5, Wt1.6
Cut-grass	Wt1.4, Wt1.5, Wt1.6
Lesser marshwort	Wt1.4
Great tassel stonewort	Wt1.4

Priority assemblages of species	Measures that would be beneficial
Breeding waders – wet grassland & heathland assemblage	Wt1.4, Wt1.5, Wt1.6
Coastal grazing marsh & upper saltmarsh assemblage	Wt1.4
Grazing marsh molluscs assemblage	Wt1.4
Woodland bats assemblage	Wt1.4, Wt1.5, Wt1.6

8 SuDS are drainage systems designed to manage surface water runoff. When designed well, they can deliver a range of benefits which include reduction of surface water flooding, replenishment of ground water supplies, creation of new habitat, filtering of pollutants preventing them reaching watercourses, and creation of valuable amenity greenspaces for communities to enjoy. (Aecom and Lead Local Flood Authorities of the South East of England. Water. People. Places. A guide for master planning sustainable drainage into developments).

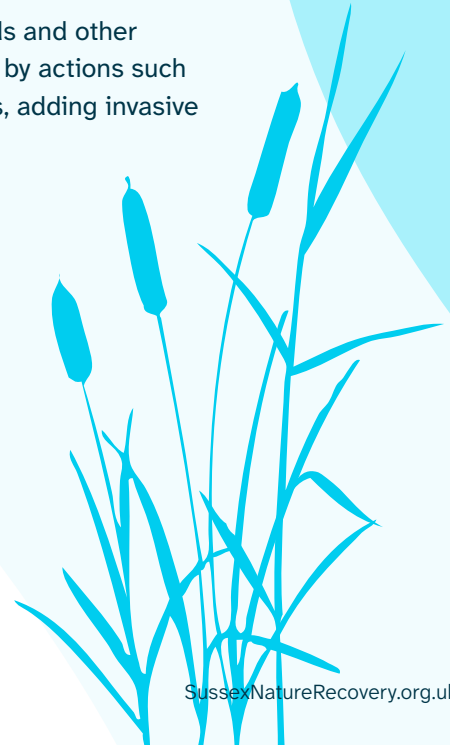
WETLANDS & STANDING WATER BODIES

Priority: SWB1 (Standing water bodies – Reservoirs, lakes, ponds and ditches)

Restore and enhance existing standing water bodies and create new standing water body habitat for biodiversity and other benefits

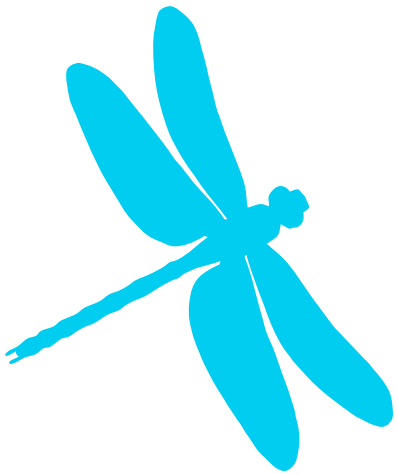
What does success in 10 years look like?

- The water quality and ecological condition of standing water bodies, such as reservoirs, lakes, ponds, ditches, dew ponds, hammer ponds, mill sites etc, is improving. This is being achieved through appropriate restoration activity, the creation and enhancement of habitats that prevent nutrient and sediment runoff entering standing water bodies, and supportive land management practices in the wider catchment.
- There is more understanding of the range of value to biodiversity that can be found in ponds in various ecological stages and therefore the need to take ecological advice before embarking on pond restoration.
- Ponds of high existing ecological value have been identified and are being managed to retain and enhance their condition.
- New ponds and networks of ponds have been created in suitable rural and urban locations.
- Strategies are in place for the management of invasive non-native species within standing water bodies.
- Standing water ditches of high and potentially high environmental value are under management that is enhancing their value for all related species.
- There is more awareness that ditches can be part of the river network and are managed as such for their support of aquatic biodiversity and habitat connectivity.
- People understand how to manage and use ponds and other standing water bodies to reduce impacts caused by actions such as duck feeding, swapping plants between ponds, adding invasive non-native species such as terrapins and so on.



Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
SWB1.1	**Enhance and restore existing ponds and pond complexes to improve biodiversity and water quality. This includes restoration of degraded and lost (ghost) ponds, pond complexes, farm ponds, hammer ponds, dew ponds and urban ponds.** **Unmapped**	It is vital to seek ecological advice to identify if a pond requires restoration as they can be ecologically valuable in different ecological stages. The techniques required will therefore vary depending on the pond type/location, threats from runoff and other reasons for poor ecological condition. Techniques may include: • creation/management of riparian habitats (creating a buffer where needed to reduce impacts of runoff and shading where needed); • desilting; • removal of leaves and rubbish; • management of water levels and depths; • cutting/thinning of bankside vegetation; • reducing vegetation in the pond; • removal of invasive non-native species, e.g. New Zealand pygmyweed.	Dependent on ecological advice. May include farm ponds, historic ponds (hammer ponds), dew ponds, village ponds, urban ponds. It may be particularly important to target Priority Ponds (which support uncommon and declining species) and ponds in poor condition.	Freshwater Habitats Trust: Pond Management Hub SFI option: WBD1: Manage ponds CSHT option: CWT15: Manage ponds and bodies of water up to 2ha **Local case studies:** South Downs National Park: Peppering Dew Ponds Restoration and Pounds for Ponds Manhood Wildlife and Heritage Group: East Beach Pond Group (Selsey) Sussex Wildlife Trust: 'Bomb Pond', Restoring – a South Downs Pond



Code	Measures	How	Where	Further info/guidance
SWB1.2	**Create new ponds/pond networks (complexes) to provide freshwater habitat for wildlife and deliver wider environmental benefits.** *Whilst these will provide wider environmental benefits (such as slowing the flow of water in the environment), these are primarily 'wildlife ponds' and their design, location and riparian habitats should reflect this.* *(For creation of water storage ponds, swales and scrapes primarily for water storage and flood risk reduction, see measure R1.7 (Natural Flood Management).)* **Unmapped** 	Identify suitable site seeking ecological advice if necessary; excavate pond creating profile/edges which will be beneficial for wildlife (see guidance).	Re-creation of 'lost ponds' where the location is known; locations where pond creation is suitable based on soils and geology; areas where pond creation is beneficial for species (e.g. great crested newts); location close to other ponds/ wetlands. Use historic pond survey work to target areas of 'lost ponds' for restoration. Information exists for South Downs National Park (lost dew ponds) and parts of High Weald National Landscape.	Freshwater habitats (Million Ponds Project): Locating ponds and finding a water source Freshwater Habitats Trust: Pond Creation Toolkit Farming for Nature: Building a wildlife pond on your land Great crested newt district licensing resources: West Sussex County Council; Naturespace **Local case studies:** Horsham District Council: Wetland creation at Mayes Park.
SWB1.3	**Create new large standing water bodies (reservoirs/lakes) with beneficial riparian habitat; this may include reservoir creation where identified as required to support water resources management.** **Unmapped** 	Construction of new water body; restoration of ex-mineral sites to create new lakes/ponds where suitable; creation of ambitious areas of riparian habitat around any new features (as suitable for location) and as required for support of species.		**Local case studies:** Portsmouth Water: Havant Thicket Reservoir Project Environment and Wildlife (Hampshire)

Code	Measures	How	Where	Further info/guidance
SWB1.4	**Restore and enhance standing water ditches to improve value for species and restore habitat linkages via ditch-side vegetation.** **Unmapped**	Maintenance of water levels; allow some sections of ditches to become choked to provide habitat for invertebrates; management on a long rotation to provide different stages of vegetation; clearance of ditches on one side only; creation of shallow margins; cattle poaching on some stretches to maintain shallow profile and control excessive vegetation growth.	All ditches but of particular importance are ditches of high and potentially high environmental value.	Freshwater Habitats Trust: Ditches Buglife: Ponds and ditches Nature Friendly Farming Network: Ditches – ways to unlock multiple benefits SFI option: WBD2: Manage ditches CSHT option: CWT3: Manage ditches of high environmental value **Local case studies:** Manhood Wildlife and Heritage Group: Fixing and Linking our Wetlands (FLOW)
SWB1.5	**Create and manage permanent vegetation buffer strips alongside ditches and ponds to support biodiversity and intercept and reduce levels of pollutants (such as nutrients, chemical pollutants, veterinary chemicals, excessive sediment) reaching watercourses.** **Unmapped**	Creation of permanent vegetation buffers (grassland, wetland, hedgerows, trees, others). For farmland, buffer size up to 20m – but to be to be suitable for site, field size and landscape scale.	This is good practice along all standing water bodies but is particularly important in the following cases: • water bodies in an agricultural setting (arable and pasture); • ditches and ponds of high environmental value; • those located in source protection zones and nitrate vulnerable zones.	Farm Wildlife: Farm ponds and water bodies (See how to do it) SFI option: BFS6: 6m to 12m habitat strip next to watercourses

Other core measures overlap directly with this priority and will contribute to its delivery.

RIVERS, STREAMS & AQUIFERS

R1.8 Reduce impact and spread of invasive non-native species on freshwater habitats (rivers, streams, wetland sites, standing water bodies).

Measures to support **Aquifers** and to deliver more **Urban Nature** may also include creation or restoration of dew ponds/ponds in suitable areas.

Code	Enabling Measures
SWB1.6 (EM)	Produce guidance/policy to guide creation of standing water bodies (ponds, lakes etc) and raise awareness of the importance of site suitability for pond creation to ensure no harm to ground water. Include guidance for all pond types/ locations (rural and urban).

Ducks by a pond, Burgess Hill © Diana Alcroft

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
European water vole	SWB1.4, SWB1.5
Adder	SWB1.1, SWB1.2
Brilliant emerald	SWB1.1, SWB1.2, SWB1.3, SWB1.4, SWB1.5
Emerald damselfly	SWB1.1, SWB1.2, SWB1.4, SWB1.5
Pondweed leafhopper	SWB1.1, SWB1.2, SWB1.5
Crystal moss-animal	SWB1.1, SWB1.2
Cut-grass	SWB1.1, SWB1.4, SWB1.5
Lesser marshwort	SWB1.4, SWB1.5
Great tassel stonewort	SWB1.4, SWB1.5

Priority assemblages of species	Measures that would be beneficial
Grazing marsh molluscs assemblage	SWB1.4, SWB1.5
Ponds for amphibians assemblage	SWB1.1, SWB1.2, SWB1.5
Woodland bats assemblage	SWB1.1, SWB1.2, SWB1.3

Urban Nature

Female hedgehog with hoglets © iStock.com/slowmotiongli

URBAN NATURE

Priority: U1

Create and connect new nature-rich areas within our villages, towns and cities, for the benefit of wildlife and people

What does success in 10 years look like?

- Greenspaces across our urban and peri-urban areas are being thought of as a vital part of our 'ecological networks' – with opportunities being taken where possible to add to and complement existing greenspaces to enhance these networks. All new and existing parks and greenspaces are being managed for people and nature (See Priority U2 below).

- Creation of new greenspace is being done at different scales depending on circumstances and opportunities. For example, in densely populated urban areas where pressure on land is high, innovative use of pocket parks and smaller scale interventions for nature (e.g. green roofs, green walls, planters, verges, butterfly banks, local 'no-mow' zones, butterfly/moth gardens and meadows, swift bricks etc). Opportunities for larger scale interventions are being sought for community and neighbourhood green spaces that benefit nature and people. Local government policies for green infrastructure and urban greening are important drivers of action with planning conditions ensure 'green' development is delivered in practice.

- The public and private sectors are playing their part. New and additional 'nature-rich' greenspaces (e.g. local nature reserves, allotments, parks, verges, public gardens, areas of habitat creation on public land (schools, hospitals)) are being created as part of a wider network, located and designed to provide benefits for nature and people. Existing business and industrial zones are creating new habitat-rich and green areas of value to nature and employees.

- New areas are creating much needed connectivity for nature within the urban environment, particularly those of a linear nature such as verges, embankments, new green walking and cycling corridors etc.

- Street trees, hedgerows, wildflower planting and other urban habitats (e.g. green walls and green roofs) are being included in the built and public realm across our villages, towns and cities to create additional habitat and a range of ecosystem services including carbon sequestration, support for pollinators, shading, flood risk reduction and improvements to health and wellbeing. Planting schemes ensure 'future-proofing' against potential changes in climate.

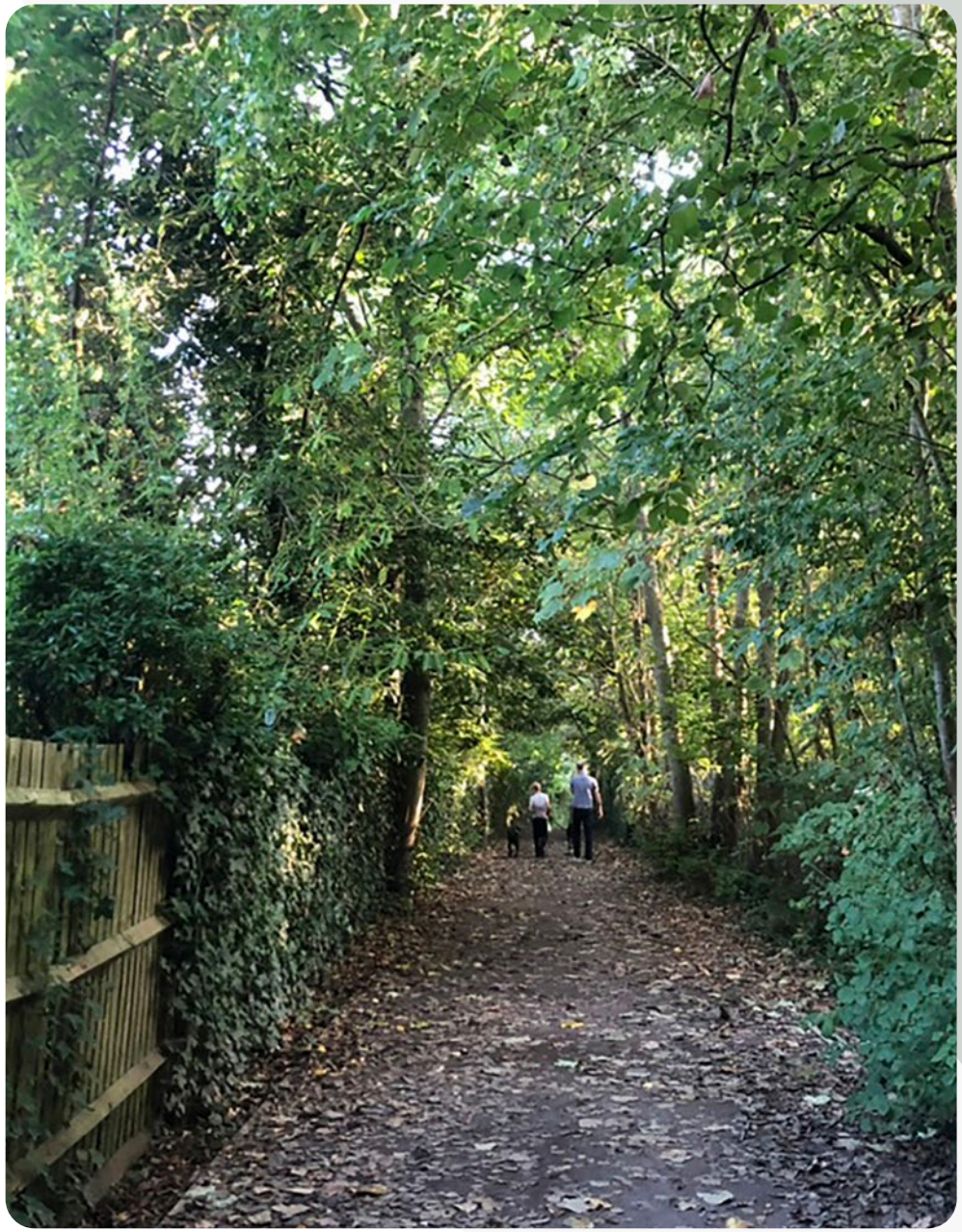
- Communities are being encouraged to develop community-led plans which address nature recovery and include actions that can be delivered by residents. The design of new greenspaces reflects the needs and views of local people and aims to provide spaces which are considered safe and welcome to all. Opportunities are being taken to innovate, test and research nature-based approaches which better connect communities to these projects.

- Creation of new greenspaces is being targeted, particularly where the provision of existing green space falls below national standards and where income and health inequalities have been mapped[9]. Creation and enhancement (see U2) of our urban green spaces is also reflecting the 'voices' of those communities and individuals that are often not heard in decisions about where to target resources.

- Priority is being given to ensuring that new development includes sufficient accessible natural greenspace of value to both residents and wildlife; inclusion of habitats within developments is 'landscape-led', linking to and enhancing surrounding habitats and the natural environment.

- 'Sustainable Drainage Systems' (SuDS) such as ponds and rain gardens are being created in urban areas particularly where these can also provide ecosystem services such as flood risk reduction and water storage in the urban landscape.

- Local government, the Protected Landscapes in West Sussex (South Downs National Park, High Weald National Landscape and Chichester Harbour National Landscape) and geographical partnerships such as The Living Coast UNESCO Biosphere and Weald to Waves Community Network are helping to improve access to green spaces for the benefit of the populations within their boundaries.



Green corridors in Burgess Hill. © Diana Alcroft

9 Natural England Green Infrastructure Framework mapping. https://designatedsites.naturalengland.org.uk/GreenInfrastructure/Map.aspx

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
U1.1	**Create new accessible natural greenspaces in urban areas, designed and located to deliver multiple benefits for people and nature.** **Mapped**	Creation of new parks or green spaces, with delivery of multiple benefits in mind (wildlife, health and wellbeing, air quality, urban temperature regulation, flood risk reduction etc). These can include a range of size and type of greenspace – from larger parks, allotments/community food growing spaces to smaller parks and corners of habitat/greenspace at the street scale. Design should seek to deliver specific benefits to wildlife, health/wellbeing, climate change mitigation (e.g. tree and hedgerow planting) and climate adaptation (e.g. flood risk reduction, urban temperature regulation – as required in that locality).	Opportunities to include new greenspaces in all new larger housing developments; within existing urban areas opportunity will be more limited by space/ funds but should be targeted in areas of 'nature deficit', highest health inequalities, air pollution and vulnerability to the impacts of climate change (e.g. flooding and urban heat island effects) – and where possible to enhance connectivity between existing green spaces; locate within proposed urban 'ecological networks' if mapped by local authorities. NE Green Infrastructure Standards mapping tool can be used to identify areas in need of greater provision of accessible natural greenspace.	Natural England Blog: Green infrastructure – the catalyst for urban greening Natural England, Green Infrastructure Framework: Principles, attributes and standards and mapping tool Heritage Lottery Fund: How to create sustainable urban greenspace in your area Nature Towns and Cities: (website)

Code	Measures	How	Where	Further info/guidance
U1.2	**Retrofit small/micro areas of habitat within the built/ public realm of towns and cities, particularly in areas of 'nature deficit' and where it will contribute to climate adaptation and provide enhanced connectivity between existing green spaces.** **Unmapped** 	Green roofs and walls, tree/hedge planting, pollinator habitat (UK native wildflower planting), pocket parks, tiny/mini/Miyawaki forests, green bus-stops, rain gardens, roundabouts etc. These areas may or may not be accessible but will provide important stepping-stones of urban habitat for wildlife. Should be planned as wider approach to creating connected meaningful, habitat in urban areas. Take ecological advice if needed on location and design. *Note: Urban greening factor policies within local plans may be helpful in delivering this measure.*	Within smaller developments (residential and commercial); business/industrial zones; shared spaces (housing association land, hospitals, schools); public realm (bus tops, green routeways; within proposed urban 'ecological networks' if mapped by local authorities etc. Consider the 'SuDS hierarchy' to identify water discharge options.	Mayor of London: Grey to Green – a guide to community-led depaving projects Susdrain: Guide for master planning sustainable drainage into developments
U1.3	**'Re-naturalise' stretches of urban rivers/streams to support biodiversity and natural processes, where this is feasible and aligns with flood risk approaches. Where appropriate, provide access along these stretches where possible to better connect people to urban rivers/ streams.** **Unmapped** 	'De-culverting' where possible, in-channel enhancements, riparian habitat creation, flood plain connection/re-meandering (where there is space to do so), improvements to access (where possible) to promote local engagement and benefit.	Suitable areas identified in consultation with local authorities, catchment partnerships and Environment Agency.	The River Restoration Centre: River Restoration in Urban Areas (Factsheet)

Other core measures overlap directly with this priority and will contribute to its delivery. These include:

WOODLAND

W2.2 Establish new orchards, including community orchards, with focus on maintaining locally distinctive varieties.

W3.1 Plant new street trees to deliver multiple benefits.

W3.3 Establish new areas of urban and peri-urban woodland which offer multiple benefits to residents, wildlife and landscape.

HEDGEROWS

Hdg1.3 Create new native species-rich hedgerows, including hedge trees where appropriate, to support habitat connectivity, enhance landscape character and deliver multiple benefits.

Hdg1.4 Create new native hedgerows and enhance existing hedgerows within new development, creating important corridors for wildlife and wildlife permeable boundaries.

RIVERS, STREAMS & AQUIFERS

R1.7 Create nature-based interception features (e.g. ponds, swales, wetlands) as part of a package of actions to prevent runoff from roads and highways entering water courses.

A1.1 Create high quality Sustainable Drainage Systems (SuDS) to reduce storm overflows, support ground water quality and encourage groundwater recharge/infiltration where required.

WETLANDS & STANDING WATER BODIES

SWB1.2 Create new ponds/pond networks (complexes) to provide freshwater habitat for wildlife and deliver wider environmental benefits.

Code	Enabling Measures
U1.4 (EM)	Create an accurate data set of accessible natural greenspaces in the LNRS area down to town/parish scale, to inform planning and funding for investment in greenspaces. *This will bring together GI mapping done at district scale and complement the basic but incomplete information on accessible natural greenspaces in Sussex contained within the Natural England GI Standards mapping tool.*
U1.5 (EM)	Work with public and private sectors to identify opportunities for creation of new areas of urban habitat, providing guidance and advice on habitat creation, management and funding available. *(This could range from landfill sites, brownfield sites, to small areas in business/industrial zones, cul de sacs etc. These are not necessarily accessible areas but help to create more and better connected habitat in urban areas.) This exercise will help to release land for new accessible greenspaces, or retrofitting smaller areas of habitat into built/public realm. May be supported by local authority urban greening policies.*
U1.6 (EM)	Develop projects to support wildflower propagation and distribution (e.g. via projects such as Changing Chalk Greening the Cities Project). **Local example:** Changing Chalk – greening the cities – The Living Coast

Code	Enabling Measures
U1.7 (EM)	Adopt local plan policies to require developments to deliver high quality green infrastructure which benefits residents and nature. **Further information and guidance:** *Building with nature standards: High Weald Housing Design Guide, Natural England Green Infrastructure: planning and design guide*
U1.8 (EM)	Promote the use of Community Land Trusts to secure new areas of land as community green assets. **Further information and guidance:** *Action in Rural Sussex*
U1.9 (EM)	Promote guidance on recommended planting schemes for developers to ensure new planting within development supports local nature priorities. *High Weald National Landscape Planning Technical Advice Note: Soft Landscaping & Planting Plans in Development Proposals*
U1.10 (EM)	Deliver training for local government. For example: • For planners and development managers: planning for nature in urban areas (in developments/ local plans). • For parks and estate teams, neighbourhood services etc: managing land in local government ownership for nature.
U1.11(EM)	Develop guidance and support for local communities on managing land for nature and food growing. **Further information and guidance:** *Urban Farming Toolkit: A guide to growing to sell in the city | Sustain, Food growing: Case studies, Community Garden – Sufra NW London*

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
West European hedgehog	U1.1, U1.2

Priority assemblages of species	Measures that would be beneficial
Urban birds assemblage	U1.1, U1.2
Ponds for amphibians assemblage	U1.1

Robin & blue tit © Kev Kindred/unsplash.com

URBAN NATURE

Priority: U2

Enhance the value for nature of existing parks, buildings and other blue/green spaces

What does success in 10 years look like?

- Existing parks and other open spaces in our urban areas (e.g. gardens, school grounds, playing fields, hospital grounds etc) are being managed with nature in mind, using suitable mowing regimes for grassland management and by creating new areas of habitat such as species-rich grassland, woodland, individual trees, hedgerows and ponds etc.
- Disturbance to wildlife on sensitive accessible sites is being reduced through careful management of visitor and dog use.
- A more sustainable approach to 'fine turf management' (i.e. high intensity management of sports pitches and other areas of amenity grassland) is supporting biodiversity, pollination, carbon sequestration and soil health in parks, recreation grounds, golf courses and school playing fields across West Sussex.
- In our publicly owned green and blue spaces (ranging from accessible parks and gardens through to hospitals and government office grounds), their management (in-house and via contractors) is optimising wildlife benefits.
- Use of herbicides and pesticides in urban parks, greenspaces and private gardens has reduced significantly. In our publicly owned spaces, there is a principle of 'no pesticide/herbicide use' with agreed protocols in place which identify alternatives and specify the very limited exceptions where use may be permitted. In private gardens, a greater awareness of the impacts of pesticides and herbicides on nature and the alternatives available is reducing their use across the board.
- Species in urban areas are being supported through the provision of wilder, better connected and more natural spaces and vegetation.
- In addition, more buildings in urban areas are providing nesting habitat for birds, bats and other wildlife (for example, via provision of suitable nest boxes, swift bricks, bee houses etc as part of new developments and extensions); this is targeted where specific species can benefit most (e.g. swift populations in West Sussex).
- Private businesses, e.g. golf courses, within urban, peri-urban and rural locations, are creating and enhancing habitats for the benefit of wildlife and acting as important strategic locations for nature's recovery.
- Residents are playing an active role by managing areas of their gardens and adjacent public spaces for nature, providing nest boxes, hand weeding pavements (thus removing the need for spraying with chemicals) etc.

- Community based organisations are being supported to manage local green spaces (recreation grounds, ponds, orchards, allotments, community gardens, burial grounds) for nature and wider benefits and feel part of a bigger movement for nature's recovery across West Sussex. Innovation in the identification of green spaces as 'community assets' and the use of mechanisms such as Community Land Trusts and dedication of town/ village greens is bringing more greenspaces into community management with a specific focus on delivering local benefits for nature and people.

- More educational projects are being created to help communities understand the importance and potential of the environment in urban areas (e.g. for their mental and physical health).

Woodland Flora and fauna
Group erecting a barn owl box in Mid Sussex countryside.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
U2.1	**Increase the area of habitat created and managed for nature within existing green spaces, such as parks, recreation grounds, allotments, golf courses, foreshore, public gardens, shared spaces (flats/ housing association land), hospitals, prisons etc.** **Mapped – to those types of greenspaces that are most likely to provide opportunities, see Part 4.** 	Opportunities for creation or better management of habitats for nature exist in many types of greenspaces. The list below provides some examples. **Smaller grassed areas:** manage as natural greenspaces with reduced mowing, where this does not impact negatively on visitor experience. **Cemeteries and churchyards:** manage closer to natural greenspaces through suitable mowing practices and other habitat enhancements, where this is supported by stakeholders. **Allotments:** create new areas of habitat via hedgerows, small trees, wildflowers. **Playing fields:** Sustainable Turf Management*; management of corners and edges for wildlife; establishment of hedges, boundary trees, long grass boundary strips, minimising use of chemicals etc. **School grounds:** sensitive management and creation of new areas of habitat within grounds for the benefit of nature and pupils and linked to net zero and climate adaptation plans. **Golf courses:** Sustainable Turf Management; innovative and diverse management techniques for tee, fairway, green and rough to reduce chemical use and support benefit for wildlife; creation of new areas of wildlife habitat, which link to habitat types beyond their boundaries. See specific measure for golf courses below.	Many types of urban greenspace have the potential to support more nature through additional habitat creation, whether in specific corners or areas which can be dedicated to new habitat, or through additional hedging, grass strips of other habitats that can be created along edges and boundaries. The potential is obviously greatest in larger greenspaces, but opportunities should be sought at all scales. Some amenity spaces and open spaces are surfaced with artificial/hard surfaces (e.g. small play areas, artificial pitches) and may not offer any obvious opportunities.	Sussex Nature Partnership: Parks for nature and people: a toolkit for park managers (assessing benefits and potential of parks) Future Parks Accelerator: Resource hub Caring for God's Acre – Management of burial grounds for nature: (website) Pitchcare: Sustainable turf management The Conservation Volunteers: The Urban Handbook Weald to Waves: Gardens and Greenspaces Education Nature Park **Local case studies:** Manhood Wildlife and Heritage Group: Manor Green Park Group (Selsey) Horsham District Council: Wildways Project Brighton B Banks

Code	Measures	How	Where	Further info/guidance
U2.1 cont.		**Foreshore:** management to expand/enhance fragile coastal habitats on the site (e.g. coastal vegetated shingle). **Local Greenspace Designations:** some of these may be important for wildlife and could be good sites for community-based projects where landowner is willing (may be parish, district/borough and/or private landowner). **All:** reduction in disturbance to wildlife and damage to fragile areas of habitat where necessary. This may involve a range of visitor management approaches such as ranger/warden activity; protection of specific areas via fencing, zoning etc. Education, awareness raising and interpretation is vital in all greenspaces as part of management for 'nature and people'. **Sustainable Turf Management increases the value of playing fields and other areas of managed turf for nature and reduces the impacts of its management on the wider environment (e.g. via reduced water and chemical use etc).*	Options for new habitat creation should be considered across the 'suite' of spaces owned and managed by a local authority, town or parish council, housing association, institutional estates (including NHS) etc. Some may hold more potential than others based on local engagement, the location of the space in relation to a wider ecological network and/or the opportunity to deliver wider environmental benefits on the site.	

Code	Measures	How	Where	Further info/guidance
U2.2	**Install features to support species within urban areas (buildings, greenspaces, roads etc). Where possible, create adjacent supporting habitat for the species where this would be helpful (will be species and location specific).** **Unmapped** 	**Roosting/nesting boxes** for bats and birds across urban areas, with particular focus on existing nesting and breeding sites for important urban species. *Note: Swift bricks are considered a universal fix for small cavity-nesting bird species as they will also be used by house sparrows, starlings, great tits, blue tits and occasionally house martins and nuthatches. National Planning Practice Guidance is that developments should include swift bricks where possible, with the general aim of one nest box per unit.* **Mammal ledges and wildlife kerbs** to support species movement in urban areas. **'Hedgehog' holes** in fences/walls to support their movement. **Amphibian 'ladders'** for road drainage gully pots. **Habitat for bees** (solitary and bumble) such as bee bricks and adjacent habitat (B-lines and pollinator gardens). **Biodiverse green/brown roofs and green walls** for invertebrates and birds.	Widespread – but specific techniques may be targeted to support species populations in key locations. See Part 3 of the LNRS for more information.	British Trust for Ornithology: Guidance for installing nest boxes Buglife: Creating green roofs for invertebrates **Local case studies:** West Sussex County Council: Giving otters a helping hand (Mammal shelf on A272) Wilder Horsham District: Supporting Swift boxes in the District Brighton B Banks

Code	Measures	How	Where	Further info/guidance
U2.3	**Reduce and where possible eliminate chemical fertilisers and pesticide applications on publicly owned land (e.g. farms, golf courses, highways, verges and central reservations, parks and sports grounds).** **Unmapped** 	This can be guided through the drafting and implementation of protocols within relevant local and national authorities.	Aspiration is for this to be widespread across all publicly owned land where possible.	Pesticide Action Network UK: Pesticide-free schools policy
U2.4	**Create and enhance habitats within golf courses and implement nature-friendly management practices, supporting biodiversity on-site and increasing connectivity with habitats beyond their boundaries.** **Mapped** 	Many options depending on location and underlying soils/ geology. Include innovative and diverse management techniques for tee, fairway, green and rough to reduce chemical use and support benefit for wildlife; habitat enhancement; habitat creation; pond creation; adjusted mowing to leave grassland habitat for wildlife; removal of invasive non-native species; planting of trees/shrubs to support wildlife; features such as bat/bird boxes; reduced use of chemical inputs.	All golf courses noting that these may be in urban, peri-urban or rural settings; create habitat on site which can increase connectivity to habitats beyond the boundaries of the course.	Golf Magic: Make your course a haven for wildlife says RSPB **Local case studies** The Southwood Foundation Nature Links project: Biodiversity in Golf South Downs National Park Authority: New initiative puts nature recovery into golf sector

Other core measures overlap directly with this priority and will contribute to its delivery:

WOODLAND

W3.4 Bring existing urban woodlands into active management to enhance nature conservation, historic environment and access.

HEDGEROWS

Hdg1.1 Manage existing hedgerows to improve their structure, longevity and value for biodiversity.

WETLANDS & STANDING WATER BODIES

SWB1.1 Enhance and restore existing ponds and pond complexes to improve biodiversity and water quality. This includes restoration of degraded and lost (ghost) ponds, pond complexes, farm ponds, hammer ponds, dew ponds and urban ponds.

Stag beetle © Derek Middleton/Sussex Wildlife Trust

Code	Enabling Measures
U2.5 (EM)	Draft and implement 'on-site mowing plans' for existing parks and greenspaces to support improvement of grassland management for species diversity and additional wildlife benefits.
U2.6 (EM)	Adopt planning policies to avoid and reduce impact on species in urban and rural areas and support positive action where possible, e.g. policies to avoid and reduce light impacts on night flying bats, birds and other wildlife; installation of nest boxes for specific species (e.g. swift bricks) etc.
U2.7 (EM)	Promote wildlife friendly gardening across the LNRS area; including habitat creation in gardens (food, shelter and nesting sites), management for water (rain gardens, rainwater harvesting etc), reduced use of chemicals, peat and artificial turf. **Further information and guidance:** *Weald to Waves: Gardens and Greenspaces*
U2.8 (EM)	Build capacity and support community groups/parish councils to create and enhance local green spaces for nature. This may include guidance on: • management of local green spaces for nature; • community engagement and communications when introducing new management for nature into parks and accessible greenspaces; • management of contractors/ model contracts for greenspace mowing and management for nature.
U2.9 (EM)	Produce guidance and provide training for local authority and private sector contractors (on greenspace/grassland management for nature).

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
West European hedgehog	U2.1, U2.2, U2.4
Stag beetle	U2.1, U2.2, U2.4

Priority assemblages of species	Measures that would be beneficial
Urban birds assemblage	U2.1, U2.2, U2.3, U2.4
Ponds for amphibians assemblage	U2.1, U2.4

Nature Networks:

Protected sites, wildlife corridors & more habitat for wildlife

Adonis blue © Paul Marten/Sussex Wildlife Trust

Key to achieving the step-change required to secure nature's recovery will be to work strategically, spatially and with ambition to create a much more effective **network** of 'bigger, better, more and joined-up' wildlife-rich spaces. All of the measures set out above, across different habitat types and scales, will contribute to this in the West Sussex LNRS area.

However, other key interventions are also needed to create a more effective network.

- Specific work to support our existing protected sites – to help them remain and thrive as 'core' areas of habitat within the network.

- Creation of better linkages between protected sites and other pockets of semi-natural habitat – to reduce their isolation and help wildlife to move through the landscape. This can be done by creating new wildlife corridors or, where complete corridors are not possible, 'stepping stones' of strategically located habitat. Where possible, the focus in these areas should be on creating, enhancing and connecting habitats listed as priorities within this LNRS (see Priorities and Measures in previous sections) and which are suitable at site level.

- Elevation of many of our multi-functional areas (green areas which provide benefits for nature and people – such as transport corridors, trails, verges etc) to play a much more effective role in this nature network, by enhancing and expanding the areas of habitats they contain.

Work to achieve these interventions is already underway across West Sussex. The Nature Networks priority has been inspired by this work and has been written to capture the need for specific actions that will make a very particular contribution to a more effective nature network across the area.

It also captures types of projects and initiatives which do not relate to single habitat types (these are covered in previous sections) but are creating and managing mosaics and mixtures of habitat types across a site or wider area. This is often the situation when working at scale and where projects are designed to reflect complex ecological, geological, hydrological and soil conditions on a site. Examples include:

- 'messy' mixtures of habitats created by re-introducing natural processes to a site;

- sites where successional/transitional habitats are present and may change through time;

- projects/schemes specifically designed to deliver multiple habitat types across a site (e.g. mineral restoration projects, habitat banks);

- local projects to manage and enhance sites which already contain or lend themselves to a mixture of habitats.

NATURE NETWORKS

Priority: PS1

Support the expansion and enhancement of a network of protected sites*

What does success in 10 years look like?

- The ecological function and resilience of our protected sites is improving by restoring and expanding their ecological size (creating more wildlife-rich habitat beyond their borders) and better connecting sites through the creation of significant landscape-scale habitat, and new 'stepping stones' and corridors of habitat. On-site improvements[10] are also taking place to increase the condition of quality of habitat in these core areas.

- Our Local Wildlife Sites and Local Nature Reserves are being brought into management that supports improvements in habitat condition, guided by recommendations from the Local Wildlife Sites Initiative, where these are available.

- The impacts of pressures on protected sites which originate beyond their borders are being reduced through collective action of stakeholders. Whilst responsibility for this mostly lies outside the scope of the LNRS, the LNRS is driving action to create and improve habitat where this can support our protected sites (as noted above). It is also playing a role in improving the environmental quality affecting many of our key sites (particularly our water-dependent sites). For example, 'nature-based solutions' are being used in key areas of our catchments to support water quality and base flows of important wetland and coastal sites downstream.

- The key pressures on our most vulnerable protected sites are being addressed collaboratively and at a landscape-scale, particularly in areas at greatest risk. This is being informed by climate change risk assessments of SSSIs and any Protected Site Strategies that come forward within the timeframe of this LNRS[11].

Important note: Natural England may have legal agreements in place with landowners of nationally designated sites (Sites of Special Scientific Interest/SSSIs) to guide their management and has mandated that these sites should sit outside the scope of the LNRS to avoid confusion with the management agreements that are in place. Therefore, there are no measures below which talk directly to management within these sites. However, much can be done around and between these sites to support their ecological function and role as part of a wider ecological network.

Some specific measures for enhancement of existing habitats have been mapped for the sites within the LNRS area which are of international importance as these are the primary stronghold for specific habitat types (e.g. coastal habitats). Key stakeholders believe strongly that it is important to reflect the role of these sites in the protection and enhancement of some of our most important habitats.

** Protected sites include: International and European designations: Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites. National designations: Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Marine Conservation Zones (MCZs). Local designations: Local Nature Reserves (LNRs), Local Wildlife Sites (LWSs), Local Geological Sites (LGSs).*

10 Habitat improvements within nationally designated sites are subject to legal agreements between landowners and Natural England. Measures to enhance habitats within high priority sites (i.e. those with international designations) have been mapped, but these sit alongside the legal requirements associated with these sites and do not override them, replace existing management agreements, or negate the need for any requisite consents or approvals.

11 Natural England is driving these processes. At time of writing, no Climate Change Risk Assessments of SSSIs were yet complete and there is only one Protected Site Strategy (pilot project) in preparation which is in West Sussex (Kingley Vale). It is anticipated that much more information will therefore be available to inform the review of this LNRS.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
PS1.1	**Implement on-site management required to improve the ecological condition of Local Wildlife Sites particularly where this is known to be poor/failing.** **Unmapped**	Site/habitat dependent; management should be guided by ecological survey and management recommendations/ management plans as prepared via the Sussex Local Wildlife Sites Initiative (LWSI) where available.	LWS in poor/failing condition as identified by the Sussex Local Wildlife Sites Initiative (LWSI).	Sussex Local Wildlife Sites Initiative: (website)
PS1.2	**Create new areas of habitat on land adjacent to protected sites, thus expanding the total area of connected wildlife habitat in and around protected sites.** Suitable habitat will be of a type noted as a priority within this LNRS and which will expand or support the interest features of the protected sites. **Mapped**	Habitat creation – related to habitats within the protected sites which would benefit from increased contiguous area created beyond boundary.	Particularly important for protected sites which are of small size, in poor condition and/or are isolated from a network of adjacent habitats; strategic areas for SSSIs/NNRs can be agreed through discussion with Natural England, landowners and nature delivery organisations. *Note: It may not be possible to create more habitat immediately adjacent to sites in some cases due to existing land uses (e.g. urban areas).*	Sussex Local Wildlife Sites Initiative Natural England: Protected Site Strategies Advisory Guidance 1.0 - NE793

Code	Measures	How	Where	Further info/guidance
PS1.3	**Implement sensitive land use in areas adjacent to existing protected sites to reduce pressures on the sites and their habitats/ species.** **Unmapped** 	Adoption of land use practices (e.g. soil management, reduced use of chemicals, grazing regime etc) to reduce pressures on adjacent protected sites. *A list of techniques is not identified here as these will be specific to the location, existing land use and sensitivity of the adjacent protected site.*	Farmland where measures could be introduced to support habitat condition/enhancement within sites. Targeting may involve failing sites where there is farmland around it. SSSI Impact Risk zones may be helpful spatial areas to use for targeting this measure around SSSIs/NNRs. This approach may form part of a landscape scale approach to increasing condition and resilience of protected sites (see enabling measure PS 1.9 below).	Sussex Local Wildlife Sites Initiative: (website – for land adjacent to Local Wildlife Sites) Natural England: Protected Site Strategies Advisory Guidance 1.0 - NE793
PS1.4	**Create new 'stepping stones' of habitat in critical areas of fragmentation between existing protected sites.** **Unmapped** 	Habitat restoration or creation; techniques will depend on habitats involved.	Reduce fragmentation, promote more connectivity between sites, reduce isolation of some species and facilitate their movement. Location and type of habitat created also informed by underlying soil/ geology and/or existing habitat on the site. Priority given to the following: • Areas of heathland stepping stones between key heathland protected sites; • Areas of restored species-rich grassland between key grassland protected sites. New areas of habitat may be chalk, acid or neutral grassland depending on underlying geology and soil and site suitability; • New 'urban connections' of wildlife rich habitat between key urban protected sites.	RSPB blog: Provide stepping stones for wildlife (urban areas) **Local case studies:** South Downs National Park: Restoring lowland health (Heathland Reunited project)

Code	Measures	How	Where	Further info/guidance
PS1.5	**Create upstream habitats to support the water flows and water quality of downstream protected wetland sites, thus strengthening the future resilience of these sites to the impacts of climate change.** **Unmapped** 	Habitat creation to create nature-based solutions to water quality and flow pressures. Suitable habitat types will be site dependent but may include woodland, wetland, grassland or habitat mosaics.	Locate in areas upstream of the wetland protected sites most vulnerable to low flows, diffuse pollution, high nutrient flows into low nutrient ecosystems.	
PS1.6	**Create new 'alternative accessible greenspaces' and/ or recreational opportunities outside protected sites to relieve visitor pressure on these sites particularly where this is needed to protect and enhance habitats and/or species populations within these sites.** **Unmapped** 	Habitat creation; creation of additional accessible green spaces. This should be delivered/ designed to also provide additional habitat (which is more resilient to visitor pressure/ disturbance) thus creating habitat as well as helping to draw visitor pressure away from fragile sites.	Locate in areas where the new greenspace will effectively draw visitors away from the protected site (for residential use, it may therefore need to be close to residents to make it attractive to them rather than closer to the protected site).	Ashdown Forest: Creation of Suitable Alternative Natural Greenspaces (SANGs) to protect fragile heathland of the Ashdown Forest from visitor pressure

Other core measures overlap directly with this priority and will contribute to its delivery.

This priority will overlap extensively with other measures for specific habitats that are required within and around protected sites to support their improvement or expansion. In particular see the following sections: **Coastal Habitats**; **Woodland, Hedgerows & Scrub**; **Species rich-grassland**; **Lowland Heathland & Sandstone Outcrops**; **Rivers, Streams & Aquifers**; **Wetlands & Standing Water Bodies**.

See also other measures within this section e.g. those relating to creation and enhancement of wildlife corridors and creation of new areas of wildlife-rich habitat.

Code	Enabling Measures
PS1.7 (EM)	Identify most urgent upstream invasive species issues for wetland protected sites and agree approach to management/ control at sub-catchment level. *Strategy in place for Ouse and Adur; develop similar strategy for other catchments.*
PS1.8 (EM)	Identify vulnerability of protected sites to climate change and adaptation measures required in response. Build these into future Protected Site Strategies and next LNRS.
PS1.9 (EM)	Develop a landscape scale recovery approach for targeted protected sites, where this large-scale approach is required to improve condition of the sites and increase their resilience. *This would involve landowners and other delivery organisations identifying actions they can deliver at scale to help reduce pressures on a protected site and support recovery of habitats and species in and around the site.* Development of a Protected Site Strategy could form part of this.
PS1.10 (EM)	Continue to survey and provide management recommendations for Local Wildlife Sites via the Sussex Local Wildlife Sites Initiative (LWSI); identify a process for identification and designation of new LWS where this would be appropriate. Support an adequately funded LWSI to enable this to happen.
PS1.11 (EM)	Support local groups to prepare/deliver climate adaptation action plans for their areas where these will support resilience of protected sites at most risk from the impacts of climate change.

NATURE NETWORKS

Priority: Cor1

Enable landscape recovery at scale across landscapes and large-scale nature corridors where this supports biodiversity, ecosystem services and landscape character

What does success in 10 years look like?

- Farmer and landowner-led landscape scale nature recovery initiatives (such as the Weald to Waves Corridor, Adur River Recovery Project, farm cluster initiatives and other landscape scale approaches) have been enabled and supported and are delivering joined-up nature-recovery projects and actions on the ground. These are playing a vital role in creating bigger, better and connected areas of habitats of the types prioritised within this LNRS, whilst also enhancing landscape character and delivering wider environmental benefits across the LNRS area.

- Publicly owned areas of land are part of large-scale nature recovery initiatives, working with private landowners to deliver multiple benefits for nature and people.

- Parishes within these corridors and areas of landscape scale recovery are playing a role, by identifying opportunities for recovery that can contribute to delivery of action on the ground (via Parish Priority Statements and Neighbourhood Plans).

- Large scale corridors and landscape scale initiatives are playing a particularly important role in areas of sensitive and fragmented habitat where a joined-up and bigger scale approach is needed, and in river valleys and sensitive areas of catchments where they can deliver wider benefits for the freshwater environment and improve habitat connectivity.

- Where Landscape Recovery bids have been developed between farmers, landowners and other partners but have been unsuccessful in receiving funding (e.g. Arun Valley, Ashdown Forest), Arms-Length Bodies, Protected Landscapes, conservation organisations and others continue to support the development of these initiatives towards a funding solution.

- District-scale approaches, where local government and other organisations can play a role in supporting and enabling nature recovery at a larger scale are emerging (such as High Weald Deer Project) and are playing an important role in coordinating delivery at a sub-county scale.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	Further info/guidance
Cor1	This is an enabling priority and will be delivered on the ground through implementation of a range of other core measures (set out in other sections) and the enabling measures listed below that will be vital to encouraging and supporting a collaborative approach to delivery.	**Local case study examples:** Weald to Waves – creation of a 100mile corridor for nature across Sussex Adur River Recovery – a national Landscape Recovery pilot project to restore the River Adur

Other core measures overlap directly with this priority and will contribute to its delivery.

No specific measures listed. Rather, this priority will overlap extensively with other measures for specific habitats that are required within landscape scale corridors and initiatives.

In particular, see the following sections: **Coastal Habitats**; **Farmed Landscape & Soils**; **Woodland, Hedgerows & Scrub**; **Species rich-grassland**; **Lowland Heathland & Sandstone Outcrops**; **Rivers, Streams & Aquifers**; **Wetlands & Standing Water Bodies**.

Code	Enabling Measures
Cor1.1 (EM)	Beyond preparation of the LNRS, continue to identify target areas for collaborative action and funding (based on existing bids, farm clusters, district scale approaches, landowner interest). Link to specific habitat or species requirements at landscape scale and delivery of wider environmental benefits.
Cor1.2 (EM)	Provide facilitation and coordinated advice for landowners in these target areas. *This was identified as a priority enabling measure by stakeholders during the LNRS preparation.*
Cor1.3 (EM)	Collate local data being generated by landscape-scale projects to identify impact, progress and learning.
Cor1.4 (EM)	Support smarter use/sharing of skills, equipment/machinery and volunteers across nature-delivery sector to support these initiatives.

NATURE NETWORKS

Priority: Cor2

Safeguard and enhance the value of existing green and blue corridors for nature and create new corridors and stepping stones of habitat where this will improve connectivity between habitats and between rural and urban green spaces

What does success in 10 years look like?

- Existing green and blue corridors are identified and being safeguarded from loss or degradation via a range of mechanisms including the planning system, best practice management and landowner commitment and action.
- Opportunities are being taken to create and enhance habitats (of the types prioritised in this LNRS) along existing green and blue corridors. This is enhancing their ecological function and resilience and providing species with vital movement corridors.
- New corridors of linking habitat are being created between particularly important and isolated areas of habitat and/or designated sites, and these are targeted where they will create much needed connectivity for species.
- Within urban areas, new 'green and blue linkages' between parks and greenspaces are being created by including corridors in new urban infrastructure when opportunity arises. These are delivering multiple benefits for nature and people in the urban environment including increased resilience to the impacts of climate change (e.g. flood risk reduction, urban shading and cooling etc). Care is being taken to use species that will be resilient to future changes in climate to ensure these new linkages ensue.
- Gardens – both private and public – are making a vital contribution to creating and linking habitats within urban environments through more wildlife-friendly approaches and more areas dedicated to wildlife habitat.
- Within the urban and peri-urban fringes new accessible green corridors are providing greater ecological connectivity between urban areas and adjacent rural areas whilst enhancing the landscape and providing opportunities for access and recreation.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
Cor2.1	**Enhance existing essential corridors used by priority species and those species especially vulnerable to climate change, creating and improving habitat within the corridor.** **Unmapped**	Sympathetic management of existing habitat and new habitat creation; delivered through land-owner collaboration along corridor length to retain/ enhance required habitat and support species recovery.	Corridors of specific importance for key species where data is available to inform this. Data on species movement and existing habitat connectivity data is vital to identify key corridors for enhancement. Work such as that being done by Weald to Waves to model 'habitat connectivity' will be helpful in this. Broad areas of importance for bat corridors in West Sussex include Ebernoe and The Mens (see the Biodiversity Opportunity Area statements for these areas: BOA – Ebernoe with watercourse flightlines BOA – The Mens and buffer and associated Barbastelle flightlines Work by Arun District Council has also identified a possible bat corridor for Barbastelle and Bechstein Bats within the district (Arun District Council BNG evidence study).	Buglife: B-Lines

Code	Measures	How	Where	Further info/guidance
Cor2.2	**Create new wildlife corridors to reduce habitat fragmentation, support specific species and (where possible) deliver wider environmental benefits and public access.** *(District/sub-county scale)* **Mapped** 	Creation and enhancement of habitats of the types prioritised within this LNRS and suitable for the location; design and locate where possible to deliver other environmental benefits required in that location. May be via creation of corridors or stepping stones of habitat.	Locate where these would deliver greater connectivity linkages between habitats and protected sites. Opportunities should be taken to create these corridors in urban/peri-urban areas as a way of better connecting urban and rural areas; opportunities should also be taken within the planning and delivery of new urban extensions to ensure the creation of linked networks of green/open spaces and corridors which provide benefits for nature and people. These may be identified in local plans and Green Infrastructure strategies by district/ unitary councils or through initiatives designed at district scale to support nature's recovery.	**Local case studies:** Chichester District Council: Strategic Wildlife Corridors (consultation)
Cor2.3	**Create and enhance community-scale green/blue corridors (at neighbourhood/ parish or community level) through coordinated activity at a local scale.** **Unmapped** 	This can include gardens/ verges, permeable boundaries (e.g. hedges or holes in fences), creation of new habitat in a local area to create linkages; on-going management of these corridors to maintain and enhance value for wildlife.	Within areas identified locally as potential local corridors (e.g. by parish councils, local community groups and within neighbourhood plans); a measure intended to be driven by local groups and parish councils.	**Local case studies:** Manhood Wildlife and Heritage Group: Selsey Pollinator Highway Project Horsham District Council: Wildways Project

Other core measures overlap directly with this priority and will therefore contribute to its delivery. These include:

URBAN NATURE

U1.2 Retrofit small/micro areas of habitat within the built/public realm of towns and cities, particularly in areas of 'nature deficit' and where it will contribute to climate adaptation and provide enhanced connectivity between existing green spaces.

U1.3 'Re-naturalise' stretches of urban rivers/streams to support biodiversity and natural processes, where this is feasible and aligns with flood risk approaches. Provide access along these stretches where possible to better connect people to urban rivers/streams.

U2.1 Increase the area of habitat created and managed for nature within existing green spaces, such as parks, recreation grounds, allotments, golf courses, public gardens, shared spaces (flats/ housing association land), hospitals, prisons etc.

NATURE NETWORKS

PS1.4 Create new 'stepping stones' of habitat in critical areas of fragmentation between existing protected sites.

Measures within priority **Cor3** are also relevant as these relate to enhancement of existing transport, walking and cycling corridors in particular (e.g. verges). Measures seeking to expand and connect **specific habitat types** or support specific **species** may also help to enhance existing corridors or create new ones. See sections: **Coastal Habitats**; **Farmed Landscape & Soils**; **Woodland, Hedgerows & Scrub**; **Lowland Heathland & Sandstone Outcrops**; **Freshwater**; **Urban Nature**.

Code	Enabling Measures
Cor2.4 (EM)	Adopt planning policies to create and connect green and blue corridors via development/planning; where possible, secure protection of important green/blue corridors for wildlife within local planning policy (e.g. Chichester District Council).
Cor2.5 (EM)	Develop guidance and support for parish councils, community groups and residents to support creation of local/ community scale corridors.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Hazel dormouse	Cor2.1, Cor2.2
Pine marten	Cor2.1, Cor2.2
West European hedgehog	Cor2.1, Cor2.2, Cor2.3
Greater horseshoe bat	Cor2.1, Cor2.2
Grey long-eared bat	Cor2.1, Cor2.2
Greater mouse-eared bat	Cor2.1, Cor2.2

Priority assemblages of species	Measures that would be beneficial
Woodland bats assemblage	Cor2.1, Cor2.2, Cor2.3

NATURE NETWORKS

Priority: Cor3

Enhance transport corridors, verges, historic routeways and footpath networks for wildlife

What does success in 10 years look like?

- New and existing travel routes (road and rail) are being managed for nature via the creation and enhancement of habitats, creating bigger, wider and more joined-up areas of habitat along their length; they are also increasing connection to the adjacent habitats and where possible, enabling connectivity across their corridors via construction of green bridges or wildlife underpasses. The significant policy change and cross-departmental cooperation required within local government and transport authorities to make this happen is taking place.

- A greater number of our road verges are being managed to improve biodiversity; all of our 'notable' and designated verges in West Sussex are being monitored and are under sensitive management which retains and enhances their particular value for wildlife.

- Historic routeways such as sunken lanes, droveways, tracks and paths, that are characteristic in many parts of West Sussex, are being enhanced as natural corridors, with suitable habitat management and creation to support their wildlife rich banks, verges, hedges and trees.

Verge with ox tails © Ben Rainbow

- Abandoned sunken lanes are being protected from anti-social activity such as dumping, fly-tipping, and loss through appropriation into neighbouring properties.

- Bridleways, cycle paths, footpath corridors and networks are, where possible, being enhanced through habitat creation and management actions. This is creating wider and more connected areas of habitat. Such work is also being delivered along the National Trails found in West Sussex (i.e. South Downs Way and the King Charles III England Coastal Path).

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
Cor3.1	**Create strategic road/rail crossings for wildlife.** **Unmapped** 	Green bridges/ underpasses and other features to assist wildlife crossing.	At key locations where infrastructure severs key ecological networks (e.g. A23, A24, A27). *Note: measure specifically for National Highways and Network Rail to deliver.* *No green bridge projects yet in West Sussex but examples elsewhere in England.*	Construction Management. Blog – National Highways unveils new green bridges designs BBC Countryfile. A417 Missing Link project in Gloucestershire
Cor3.2	**Create and enhance habitats along major road corridors (including roundabouts) and the railway network (trackside vegetation and stations) as part of sustainable management of transport corridors.** **Unmapped** 	Habitat creation; consider reuse of clean excavated materials to create habitat features, e.g. butterfly banks; improved verge management along highway corridors e.g. development of a more nuanced verge cutting regime that enables cuttings to be removed (e.g. on verges currently declining due to a cut-and-leave regime). *Note: Any measures along the strategic road network should have regard to the impacts they may have on the safety of the users of the highway.*	Corridors/verges along **major** road network and railway network; areas identified by Highways authorities and network rail as opportunities for habitat creation.	Wildlife Trusts: National Highways and Wildlife Trusts Networks for nature programme

Code	Measures	How	Where	Further info/guidance
Cor3.3	**Protect from damage/loss and enhance habitats along designated verges and other recognised verges of high value for wildlife, supporting and connecting the habitats and species for which they are designated.** **Mapped** 	Implementing appropriate cutting regimes, avoiding smothering with chip piles or grass cuttings and ditch dredging and refraining from planting non-native species; no use of pesticides and herbicides etc.	All designated verges and identified verges of high wildlife quality. West Sussex County Council has identified 'Notable Road Verges (NRV)' that are managed specifically for wildlife.	High Weald National Landscape: Roadside verges and Managing roadside verges for biodiversity – a new approach Plantlife: Road Verges and The Good Verge Guide 2021
Cor3.4	**Enhance habitats along historic routeways within the West Sussex LNRS area to protect and enhance their value for wildlife, landscape and heritage.** **Unmapped** 	Enhance the condition of the complex mosaic of small-scale habitats along routeways; suitable mowing regimes to protect fragile verge habitats; sympathetic tree management; no use of pesticides/herbicides on verges particularly where these are important for biodiversity.	All identified historic routeways e.g. drove routes, byways, sunken lanes, rural lanes. Within the High Weald National Landscape, historic routeways are a noted priority for protection and enhancement.	High Weald National Landscape: Routeways and High Weald Management Plan *(section on routeways – p28)*
Cor3.5	**Enhance verges of local community interest for wildlife to improve their value for nature.** **Unmapped** 	This can include creation of new species – rich pockets of grassland along verges to support pollinators; appropriate cut-and-collect regime; no use of pesticides/herbicides etc.	Verges identified by local communities/parishes or in neighbourhood plans as of value and interest for wildlife locally or those where communities are keen to support verge management for wildlife.	High Weald National Landscape: Roadside verges Plantlife: Managing grassland road verges **Local case studies:** West Sussex County Council: Community Road Verges (CRVs)

Code	Measures	How	Where	Further info/guidance
Cor3.6	**Create and enhance habitats along 'active travel' corridors e.g. footpaths, cycle paths, bridleways and National Trail networks.** **Mapped**	Habitat creation and enhancement, suitable for the location. This may require more joined up approach to investment in these corridors with environmental improvements integrated into workplans for footpaths, trails and local authority Local Cycle and Walking Infrastructure Plans where possible.	Could be applied along many active transport corridors particularly off-road sections which may hold more opportunity for habitat creation/ enhancement alongside the route; may include specific targeted work where this will link to adjacent habitat of value or support specific species. If targeted to lengths of these corridors where there is little existing habitat, these works could help support habitat connectivity and creation of a more complete 'green corridor' for users. Specific opportunities include National trails (which have resources to support habitat creation along their routes), long distance cycle routes (such as Avenue Verte where there is ambition to enhance the route and create more offroad sections) and routes flagged for enhancement within local authority Local Cycling and Walking Infrastructure Plans (LCWIPs), where habitat creation could form part of the approach.	National Trails: Improving habitats alongside National Trails National Trails UK: Nature Recovery Toolkit Sustrans (blog). How we are making space for nature on the National Cycle Network West Sussex County Council. Local Cycling and Walking Infrastructure Plan (LCWIP) **Local case studies:** Woodland Trust: Worth Way and Forest Way

Other core measures overlap directly with this priority and will therefore contribute to its delivery. These include:

URBAN NATURE

U1.2 Retrofit small/micro areas of habitat within the **built/public realm** of towns and cities, particularly in areas of 'nature deficit' and where it will contribute to climate adaptation and provide enhanced connectivity between existing green spaces.

U1.3 'Re-naturalise' stretches of urban rivers/streams to support biodiversity and natural processes, where this is feasible and aligns with flood risk approaches. Provide access along these stretches where possible to better connect people to urban rivers/streams.

U2.1 Increase the area of habitat created and managed for nature within existing green spaces, such as parks, recreation grounds, allotments, golf courses, public gardens, shared spaces (flats/ housing association land), hospitals, prisons etc.

NATURE NETWORKS

PS 1.4 Create new 'stepping stones' of habitat in critical areas of fragmentation between existing protected sites.

The measures within **Cor2** may also be relevant and overlap if they are implemented within a transport corridor. Measures seeking to expand and connect **specific habitat types** or support specific **species** may also help to enhance existing transport corridors. See sections: **Coastal Habitats**; **Farmed Landscape & Soils**; **Woodland, Hedgerows & Scrub**; **Heathland**; **Freshwater**; **Urban Nature**.

Code	Enabling Measures
Cor3.7 (EM)	Produce and disseminate guidance on different types of verge management for contractors; review implementation and effectiveness in maintaining/ enhancing verge habitats.
Cor3.8 (EM)	Establish mowing/collection equipment sharing and purchase schemes for local authorities/ parish councils/ community groups where required.
Cor3.9 (EM)	Training on traditional skills for community groups and contractors: e.g. grassland/verge management, hedge laying etc.

Priority species that would benefit from these measures

Priority species	Measures that would be beneficial
Hazel dormouse	Cor3.1, Cor3.2, Cor3.4, Cor3.6
Pine marten	Cor3.1, Cor3.2, Cor3.4, Cor3.6
West European hedgehog	Cor3.1, Cor3.2, Cor3.3, Cor3.4, Cor3.5. Cor3.6
Grey long-eared bat	Cor3.4

Priority assemblages of species	Measures that would be beneficial
Woodland bats assemblage	Cor3.1, Cor3.2, Cor3.4

NATURE NETWORKS

Priority: MH1

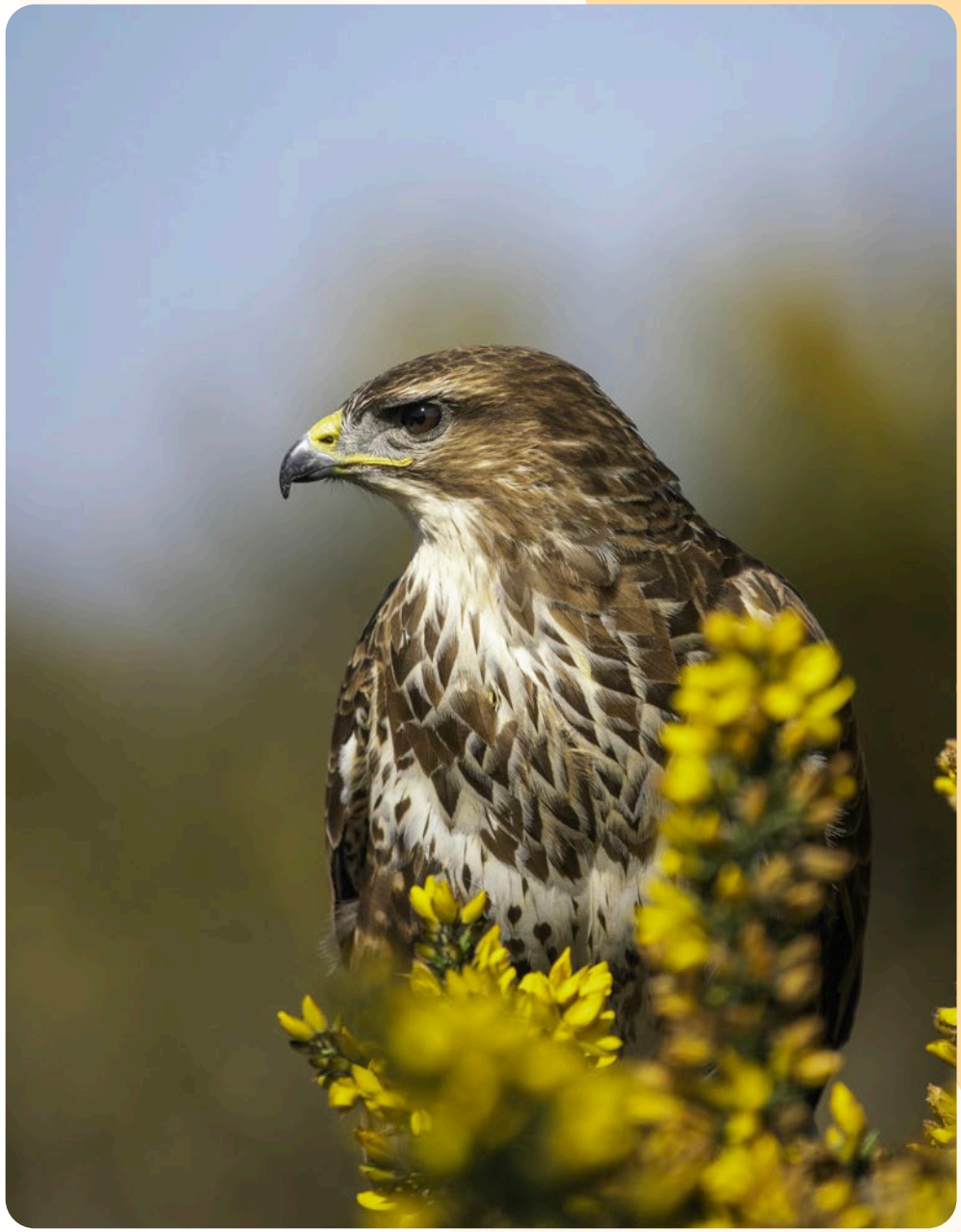
Create new areas of mixed habitats or habitat mosaics (of habitat types prioritised within the LNRS) to expand the area of high quality wildlife habitat across the nature network

What does success in 10 years look like?

- Projects and schemes at a range of scales (from local to more ambitious, larger scale projects) are creating areas of new wildlife habitat made up of a mixture/mosaic of habitat types prioritised within this LNRS and suitable for the site.

- These are being focused in strategically helpful locations, making a contribution to the creation or bigger, better, more and joined areas of habitat across the LNRS area.

- Projects delivering areas of multiple habitats may include opportunities to restore ex-mineral sites to create areas of valuable habitat, as well as habitat banks and projects with a long-term commitment to the creation and management of habitat. Project design is referencing the LNRS and focusing on delivering the habitat types prioritised within it.



Common buzzard © iStock.com/Carl mckie

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Code	Measures	How	Where	Further info/guidance
MH1.1	**Restore existing ex-mineral sites to create new areas of high-quality habitats of the types prioritised within this LNRS and suitable for the site.** **Mapped**	Habitat creation and on-going maintenance as an integral part of the plans for site restoration.	Sites identified by minerals authority as suitable for restoration to habitat with particular focus on those identified for restoration projects and funding.	Nature after Minerals
MH1.2	**Manage existing habitat banks to create or enhance habitats of the types prioritised within this LNRS, ensuring long-term commitment to their creation, enhancement and management.** *Note: Due to the fact that the LNRS cannot be updated until it is formally reviewed, it can only display existing, well-developed habitat bank projects. This measure therefore only applies to those mapped at the time of publication.* **Mapped**	Implementation of habitat bank projects to deliver habitat creation for funding via the Biodiversity Net Gain (BNG) process.	These banks are already located in beneficial locations including sites within proposed habitat corridors, BOAs, areas where they create habitat connectivity with adjacent habitat or designated sites and/or in areas where they will deliver wider environmental benefits and/or access to nature.	**Local case study example.** Habitat banks will continue to be created beyond the publication of this LNRS. When in place they are officially registered with Natural England and can be viewed on the gov.uk website.

Code	Measures	How	Where	Further info/guidance
MH1.3	**Deliver habitat creation and enhancement projects involving multiple habitats/ habitat mosaics concentrating on habitats of the types prioritised within this LNRS.** **Mapped**  *This is designed to capture those projects which cannot be captured under habitat specific measures above.*	Delivery of habitat enhancement and/or creation projects involving multiple habitats on the site.	Areas brought forward for projects. Preferably in locations of strategic benefit for nature's recovery (e.g. within proposed habitat corridors, buffers to protected sites, BOAs) and/or in areas where they will deliver wider environmental benefits and/or access to nature.	

Other core measures overlap directly with this priority and will therefore contribute to its delivery. These include:

NATURE NETWORKS

PS1.4 Create new 'stepping stones' of habitat in critical areas of fragmentation between existing protected sites.

Many of the measures in the other sections above will contribute directly to enhancement and creation of Nature Networks. See measures in all other sections for specific habitats of interest.

Code	Enabling Measures
MH1.4 (EM)	Create a Sussex-wide dataset/mapping platform to collate information on nature recovery projects being implemented across stakeholder groups. This will contribute to monitoring nature recovery activity and progress across the West Sussex and East Sussex and Brighton & Hove Local Nature Recovery Strategies.

Nature, Health & Wellbeing

© Joseph Pearson/unsplash.com

NATURE, HEALTH AND WELLBEING

Priority: NH1

Create new areas of natural greenspace designed and located to deliver benefits for health and wellbeing while enhancing biodiversity

This priority complements the general presumption under U1.1 that creation of new green spaces will be targeted in areas where local people are currently under-served in relation to 'nature nearby' and where there is known health and income inequality – but is more specific and relates to bespoke creation and design of natural greenspaces to deliver health benefits.

What does success in 10 years look like?

- This 'asset-based' approach is creating places, specifically designed to enhance biodiversity alongside accessibility and delivery of benefits for health and wellbeing. They are located and designed using health-information and best practice for the design of 'healthy places'. This includes understanding how to design places to support health in the face of a changing climate.
- Places are also being designed to support nature but also to anticipate the impacts of climate change on health, using nature as part of the solution (e.g. tree planting to provide urban cooling).
- Nature and access to nature is acknowledged by decision-makers across all sectors as part of the solution to supporting health and delivery of health-related policy priorities. Funding for creation of these new health 'assets' thus flows from across sectors and via partnership working.
- New development, particularly large urban extensions, demonstrates good practice in the provision of greenspace which will support health and wellbeing of residents.
- Green and blue spaces, particularly in urban areas, are being valued and supported as important community assets which bring people together and contribute to community cohesion.
- Cross-sectoral work is supporting people and communities to access 'nature nearby', again driven by an understanding of where social and cultural barriers may be preventing this.
- Public engagement initiatives are creating a more diverse range of opportunities for connection with nature (e.g. via food growing, natural play areas, green social prescribing) and as such a larger and more diverse percentage of the population of West Sussex are receiving benefits for their health and wellbeing.

Core Measures – Measures identifying the 'action on the ground' required to deliver this priority:

Note: these are in addition to measures within U1 and U2 which will increase the value of green spaces for nature and people.

Code	Measures	How	Where	Further info/guidance
NH1.1	**Enhance existing and create new areas of natural greenspace designed specifically to deliver health and wellbeing benefits.** *Examples include therapeutic gardens and green spaces in hospitals, clinics, schools, community gardens, areas for community food growing, parks etc.* **Unmapped**	Creation and enhancement of greenspaces specifically designed to deliver benefits to mental and physical health; within these spaces, provision of infrastructure such as accessible pathways, quiet spaces etc to enhance accessibility and provide a range of health benefits.	These are in addition to general increases in quality of existing green spaces and creation of new greenspaces, which can be designed to deliver multiple benefits including health and wellbeing. These are areas designed specifically to deliver benefits to health and may be linked to green social prescribing activities or the needs of specific users of these spaces. e.g. hospitals, surgeries, schools, community gardens etc.	The Living Coast: Things to do: health and wellbeing Lambeth GP Food Coop: Community led health cooperative working with NHS partners Local Government Association: How the London Boroughs of Camden and Islington are using Green Spaces to deliver better health outcomes for residents Islington Council: Appendix 1 – Parks for Health Strategy Document.pdf (islington.gov.uk) Centre for Sustainable Healthcare: NHS Forest **Local case studies:** Sussex Nature Partnership: Parks and greenspaces project – Health Park Audits Surrey and Sussex Health Care NHS Trust: New woodland project

© Julio Lopez/unsplash.com

Other core measures overlap directly with this priority and will contribute to its delivery.

As noted above, this complements measures within **Urban Nature**, *designed more broadly to create and/or enhance more natural accessible greenspace in urban environments where these can deliver multiple benefits for people and nature. Measures related to* **Woodland, Hedgerows & Scrub** *and* **Nature Networks** *will also be relevant. These include:*

WOODLAND, HEDGEROWS & SCRUB

W2.2 Establish new orchards, including community orchards, with a focus on maintaining locally distinctive varieties.

W3.1 Plant new street trees to deliver multiple benefits.

W3.3 Establish new areas of urban and peri-urban woodland which offer multiple benefits to residents, wildlife and landscape.

URBAN NATURE

U1.1 Create new accessible natural greenspaces in urban areas, designed and located to deliver multiple benefits for people and nature.

U2.1 Increase the area of habitat created and managed for nature within **existing** green spaces, such as parks, recreation grounds, allotments, golf courses, public gardens, shared spaces (flats/ housing association land), hospitals, prisons etc.

NATURE NETWORKS

Cor2.2 Create new wildlife corridors to reduce habitat fragmentation, support specific species and (where possible) deliver wider environmental benefits and public access.

Cor2.3 Create and enhance community-scale green/blue corridors (at neighbourhood/parish or community level) through coordinated activity at a local scale.

Cor3.5 Enhance verges of local community interest for wildlife to improve their value to nature.

Code	Enabling Measures
NH1.2 (EM)	Produce /disseminate guidance and examples of best practice to support design and management of green spaces for nature and health.
NH1.3 (EM)	Support cross sectoral work to increase access to nature for health and wellbeing benefits via: • access to 'nature in everyday life' • nature-based health promotion • green care • active participation in local nature recovery projects. **Further information and guidance:** Sussex Nature Partnership (2024). Nature and Health: shared outcomes for a collaborative approach in Sussex.
NH1.4 (EM)	Where needed (and where possible), negotiate new access arrangements to existing nature-rich spaces particularly in areas of low provision and where it may be difficult to establish new public parks/greenspaces.

Section 5.

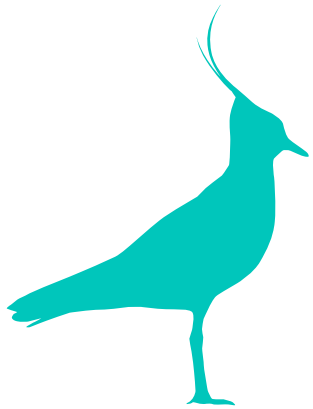
Local Habitat Map

Kingfishers

The intention of this map is to identify areas already important for biodiversity within the LNRS area and those areas that could become important, if the measures within the LNRS are implemented in a targeted way.

The Local Habitat Map has three, inter-related parts:

- A map of 'Areas of Particular Importance for Biodiversity' (APIB map);
- A map identifying where measures can best be delivered (Measures Map);
- A map of 'Areas that Could become of Importance for Biodiversity' (ACIB map).



5.1 Areas of Particular Importance for Biodiversity (APIB)

Statutory guidance strictly defines what should be included in the APIB as the following:

- All national conservation sites;
- All local nature reserves;
- All existing local wildlife sites and areas of irreplaceable habitat.

The statutory guidance is clear that Responsible Authorities should not map any other areas as being of particular importance for biodiversity. This is not to suggest that other areas are not important, but to help establish a nationally consistent baseline and to align well with local planning policy and avoid duplicating with the identification of Local Wildlife Sites (LWS).

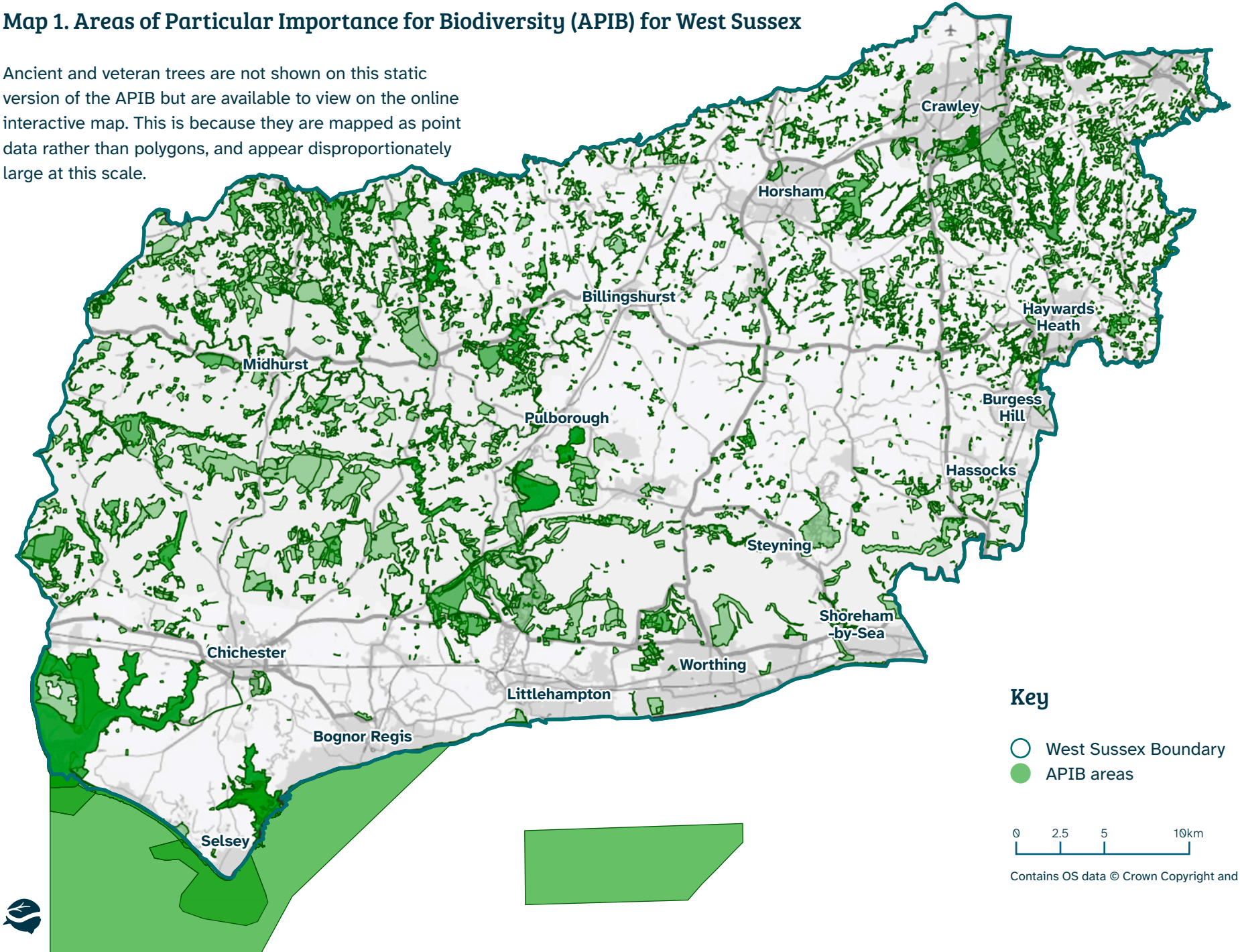
Our APIB covers 35,255ha which is 16% of the LNRS area.

We have 19,400ha of priority habitats that lie outside of the APIB as they are not formally designated as protected sites. This equates to 9.6% of the LNRS area. Some of this may comprise irreplaceable habitat as we do not know its full extent. In recognition of this richness of biodiversity, and to ensure that our first port of call is to look after what we have and to make it better, many of our measures relate to enhancing the condition of our priority habitats.

Much of our LNRS area is also already under positive management for wildlife, both inside and outside protected sites, either through its ownership and management by environmental organisations such as the National Trust (5,069ha), RSPB (1,476ha), Sussex Wildlife Trust (768ha) or the Woodland Trust (68ha), or through Environmental Stewardship agreements (14,592ha). West Sussex County Council has also designated an estimated 21ha as Wildlife Verges.

Map 1. Areas of Particular Importance for Biodiversity (APIB) for West Sussex

Ancient and veteran trees are not shown on this static version of the APIB but are available to view on the online interactive map. This is because they are mapped as point data rather than polygons, and appear disproportionately large at this scale.



5.2 The Measures Map

The Statement of Biodiversity Priorities sets out the measures (actions) that if carried out can help to contribute to achievement of the priorities for the LNRS. The Measures Map identifies the **locations where these could be carried out to deliver the greatest benefit to biodiversity and/or the wider environment**, based on stakeholder judgement and best available datasets. Creating this map involved identifying where measures could help to create 'bigger, better, more and joined-up' areas of wildlife-rich habitat and/or help to act as nature-based solutions to issues such as flood risk reduction, improving water quality and so on.

The Priorities & Measures tables in the section above indicate whether a measure is mapped or not.

A **Mapped Measure** is a measure that has been mapped in a located area.
A **Non-Mapped Measure** is a measure that has not been mapped – and this may be for several reasons:

- The measure may be beneficial across the whole LNRS area (so therefore it is not possible to target it to where it would make the most difference); Examples include deer management and measures to enhance wildlife habitat on farmed land;
- The measure is not about direct action for habitat creation/enhancement activity;
- There is insufficient data to map the measure (or mapping cannot be done to a level of accuracy or reliability that is useful or meaningful).

Just over 40% of measures for this LNRS have been mapped.

Areas on the measures map cover 91,119ha, which is 45% of the LNRS land area.

All measures included within the LNRS are important in helping to achieve the stated ambitions and priorities within the document. Just because a measure is not mapped does not mean that it is less important as part of the overall strategy for nature's recovery. Where measures are mapped, there will be areas of the map they do not cover. However, there may still be very specific local opportunities for habitat enhancement and creation that are known to landowners and others in these areas. In these cases, it is hoped that the principles, priorities and measures can guide action.

The process of mapping measures included iterative analysis and feedback, using a range of datasets to inform priority locations for potential measures to be carried out. The methodology for mapping each measure is described in Part 4.

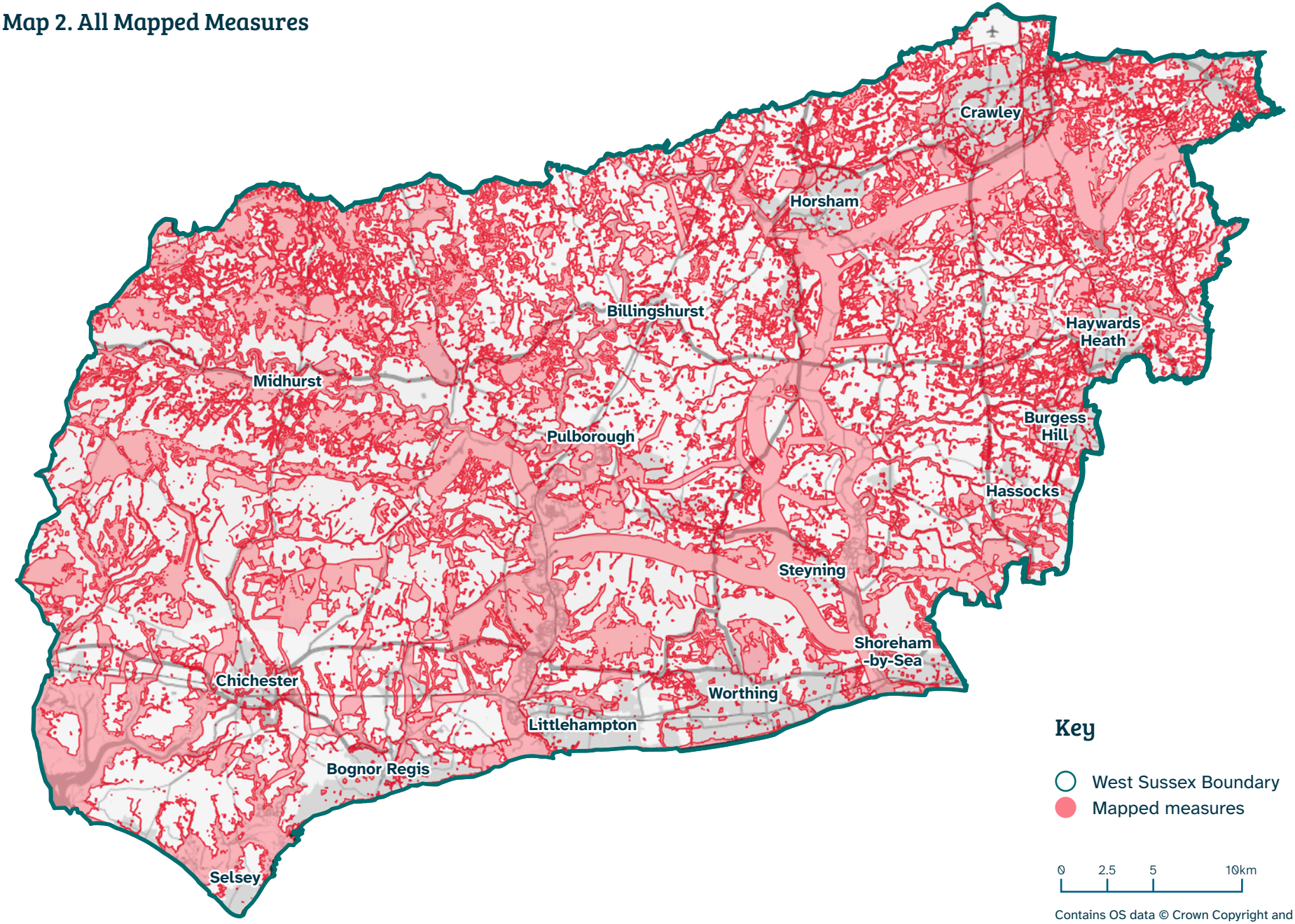
The Measures Map is colour coded and for ease of reference is presented to identify measures for each main habitat group, before these are presented as an overall measures map.

The various habitat layers of the Measures Map are best viewed on the interactive online map.

Note: some of these measures overlap, which simply means that there may be more than one action on the ground in these areas which would confer benefit for biodiversity and/or deliver wider environmental benefits. These overlaps have been checked carefully to identify any measures which should have priority over others or to remove those that may conflict with others or be better implemented elsewhere. As such, we believe that the overlaps that remain provide landowners with the flexibility to choose those which best fit with other plans for their land or surrounding habitats.

Disclaimer: *The Measures Map is a guide and shows suggested measures for nature's recovery in an area. It is important to note again that just because a measure is not mapped does not mean it is less important for nature's recovery. The mapping methodology has simply limited our ability to map all areas where measures could be delivered. It is important to undertake site specific investigations and seek expert advice and the necessary permissions before starting work on the ground. The Measures Map should not be treated as definitive but as a tool to help plan and coordinate action for nature's recovery.*

Map 2. All Mapped Measures



Note: Measures mapped to land included on the APIB

Some of these measures are mapped onto land that appears on the APIB and as such indicate action that could be taken to deliver benefit for biodiversity and/or the wider environment on areas already identified as of particular importance for biodiversity. This is important for Local Wildlife Sites and areas of irreplaceable habitat which are not covered by statutory protections and management agreements (such as exist for SSSIs and NNRs) and is intended to help target action in these sites and habitats where it may be needed most.

Defra guidance for the preparation of an LNRS advises that no measures should be mapped onto 'national conservation sites' (SSSIs, SACs/SPAs, NNRs, Ramsar Sites) unless there is no duplication or conflict with the management agreement for each site. As there are 77 SSSIs alone in West Sussex, it was not possible to check the Measures Map against each management agreement separately. However, one of our key principles is to look after what we have and make it better, and the potential measures mapping has been designed to deliver a coherent network for nature recovery across the Strategy area. As such, some of our measures lie within national conservation sites and present future considerations for these sites. We have agreed with Natural England that measures to **enhance habitats** (rather than for habitat creation) can be mapped within high priority sites, i.e. those with international designations. These measures sit alongside the legal requirements associated with these sites and do not override them 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. How potential measures may be applied to national conservation sites in the future will be part of an ongoing point of discussion during the Strategy's delivery, monitoring and review process.

Measures which are mapped on land not included in the APIB are captured on the third part of the Local Habitat Map, the ACIB (Areas that Could become of Importance for Biodiversity) – see over.

5.3 Areas that Could become of Importance for Biodiversity (ACIB)

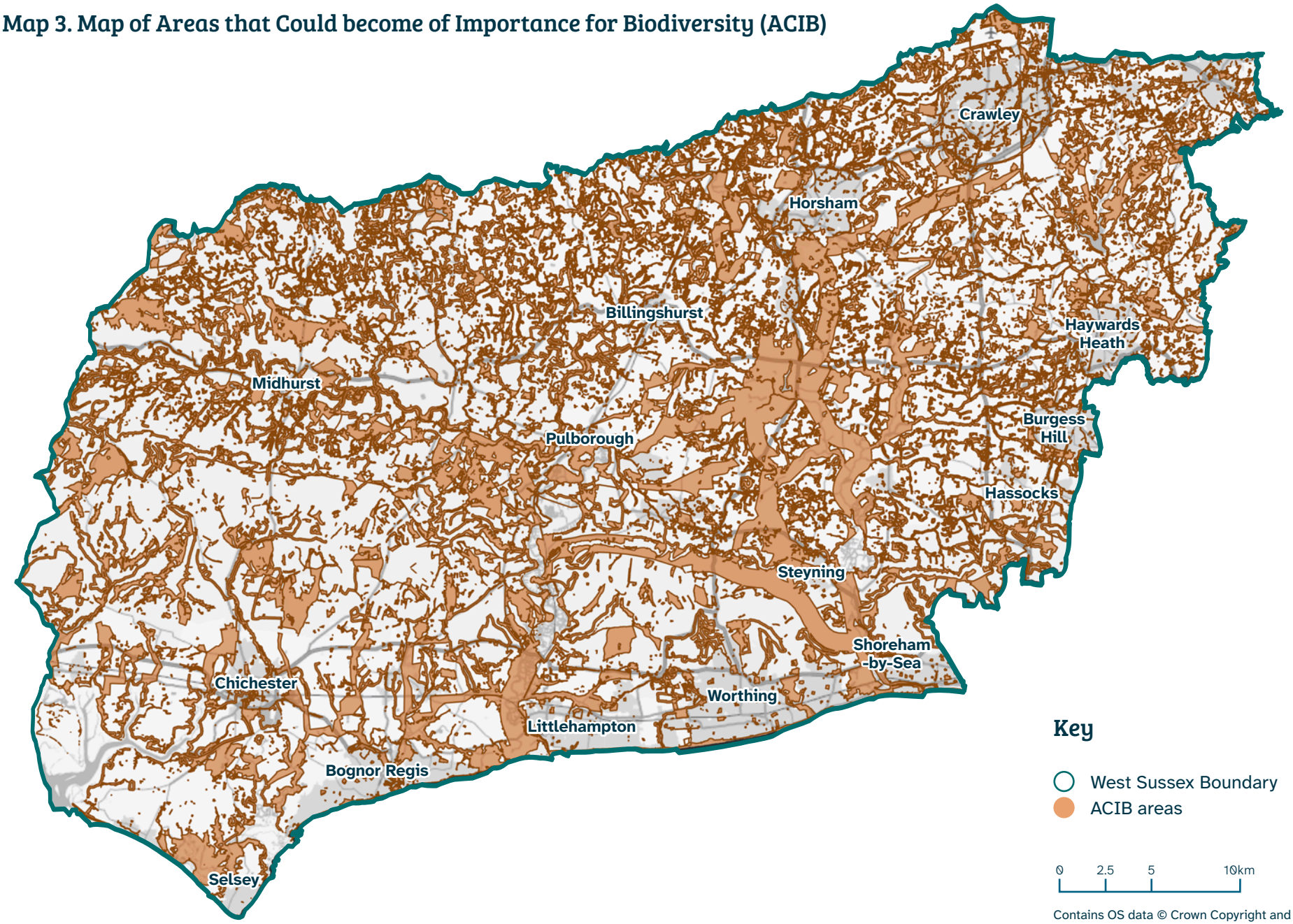
Measures that are mapped onto land **outside the APIB** are together identified on the third map within the Local Habitat Map – the map of **Areas that Could become of Importance for Biodiversity** (ACIB). In essence, the ACIB identifies where and how habitats can be enhanced or created to create a more joined-up and resilient ecological network of habitats between and around the core sites and irreplaceable habitats mapped on the APIB. The ACIB does not overlap with the APIB.

The ACIB for the LNRS area covers 58,256ha which is 28.8% of the land area.

Together the APIB and ACIB cover **93,511ha, 46.2%** of the land cover of the LNRS area.

It is important to note that the ACIB is an interpretation of where action for nature could have the most benefit for nature and the wider environment, based on best available data and stakeholder input. Inclusion on this map does not automatically guarantee that it is possible to enhance/create habitat in these areas. Any potential habitat creation or enhancement proposals will need thorough investigation and consent before they take place. Any efforts to create or enhance space for nature outside these areas is also valuable and should be encouraged.

Map 3. Map of Areas that Could become of Importance for Biodiversity (ACIB)



Section 6.

How to use this LNRS

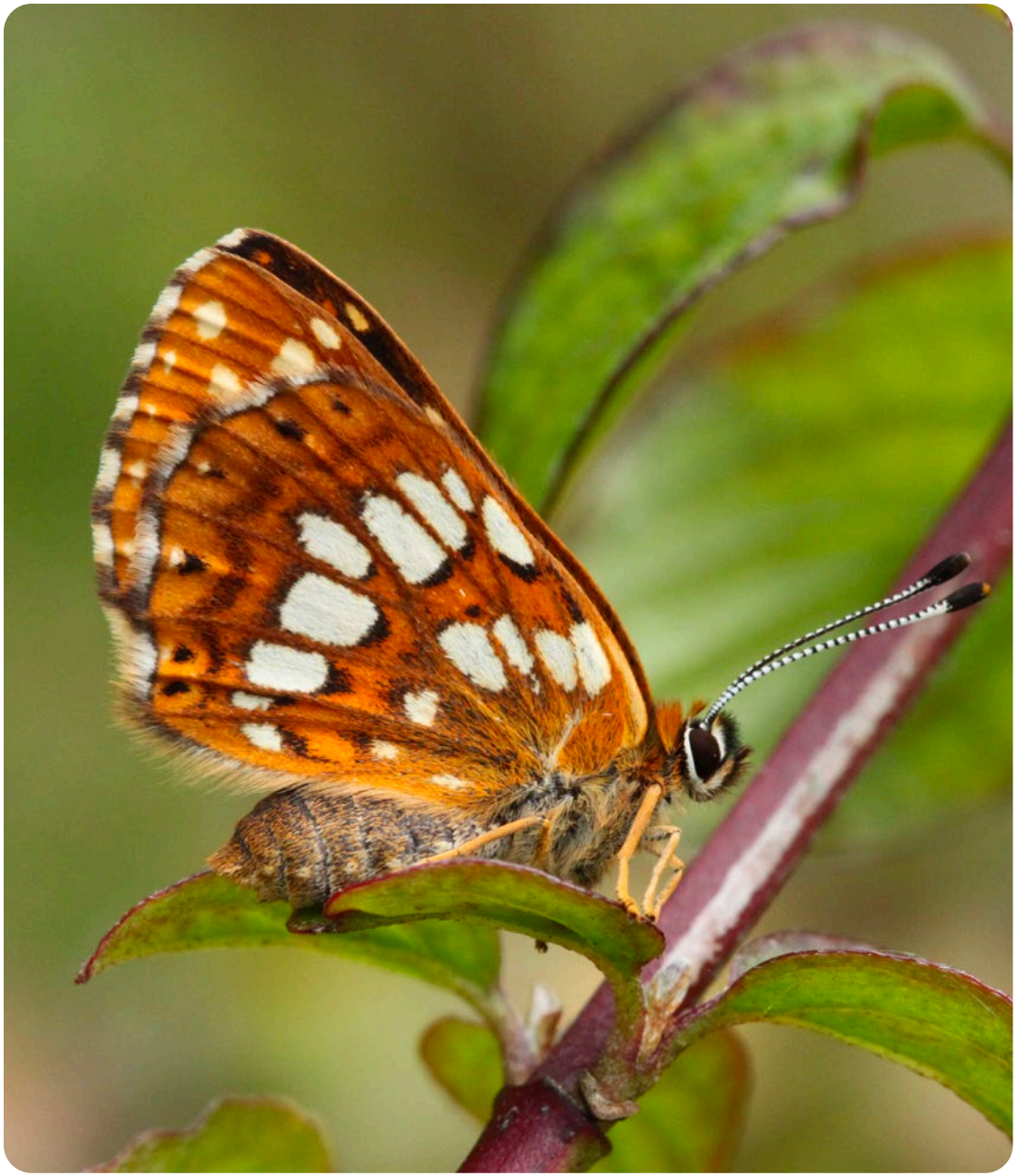
Barn owl

Large or small, every action to help nature is essential. This LNRS has been designed to inspire and enable everyone – organisations, partnerships, groups and individuals – to do more for wildlife and the natural environment of West Sussex, depending on their resources and interests.

We hope that it does this by:

- Covering every scale of activity within its practical set of measures – there is something for everyone to take forward.
- Providing a single set of priorities and actions for nature's recovery for us to rally behind, seek funding for and work together to deliver on the ground.
- Giving funders, investors, landowners and delivery partners confidence in the actions and locations that will deliver the greatest benefit for nature.
- Serving as an important benchmark for our 'state of nature' against which we can measure future trends and the effectiveness of our actions.
- Acting as a guide for any interested organisation, community group or individual (at whatever scale) to understand how their actions could make an important contribution to a county-wide ambition for nature.

The following sections provide additional suggestions for its use by specific users or groups who may have their own very particular ways of supporting nature's recovery and may want to know more about how the LNRS can assist in this.



Duke of burgundy butterfly © Ben Rainbow

6.1 Landowners and Managers

Approximately two thirds of the land in West Sussex is agricultural which makes farmers vital stewards of our environment. Many of our landowners and managers have been making space for nature for years, even generations, and some are now leading the way by creating demonstration projects for a sustainable, wildlife-rich future. However, we also recognise the significant challenges faced by the sector which may provide barriers to action, particularly for smaller farmers and tenant farmers.

Farmland is home to some of our most important wildlife habitats: hedgerows, field margins, ponds and grassland. These offer vital food sources and shelter for birds, insects, small mammals and other wildlife. This strategy offers 10 measures for farmland and soil specifically, but as the farmed landscape in West Sussex contains a range of other habitat types and covers such a large percentage of its total area, many of the other habitat measures will also be relevant.

To help make measures viable for landowners and managers, they have been aligned where possible (and at time of publishing) to Environmental Land Management Scheme options.

This strategy aims to guide decisions with nature in mind, particularly for land less suited to food production. Its recommendations are not intended to be prescriptive, and landowners and land managers do not need to make any changes based on what is mapped or published in this LNRS.

Landowners and managers can use this LNRS to:

- Identify a range of actions, case studies and further guidance to improve or create habitats, manage soil or provide wider environmental benefits on their land.
- Support applications for funding – whether via Biodiversity Net Gain, government schemes (such as Environmental Land Management Schemes, protected landscape schemes (FiPL), woodland creation or management grants) or private investment in biodiversity, carbon, or nutrient offsetting opportunities.
- Identify, using the maps, where the best opportunities for actions for nature are located and what the most appropriate action to take would be. Please note this does not rule out action in other areas but rather indicates where targeted action would best be located. Unmapped measures that are not targeted to specific locations should also be considered.
- Recognise where there may be opportunities across wider spatial areas, such as between neighbours or within farm clusters, to deliver actions at scale.

Caroline Harriott, Director of Arun to Adur Farmers talks about farming with nature and the work of the cluster to improve soil health and biodiversity.

6.2 Local Authorities

Local authorities have a pivotal role to play in nature recovery as planning authorities, policy makers and land managers.

As planning authorities responsible for the creation of Local Plans, they can use the data and information within the LNRS to support the evidence base for their Local Plan, and the priorities, measures and mapping to better understand how to balance the needs of nature with other demands within the planning process. The LNRS also contains measures, both core and enabling, which indicate how more support for nature can be included within local plan policies and within the design and delivery of new development.

As providers of important services such as flood risk management and public health, and with an interest in net zero and climate adaptation, Local Authorities can use the LNRS to understand how and where nature-based solutions can be used to best effect to provide benefits for nature and people. The restoration of minerals and waste sites to create new areas of habitat can also be linked much more strategically to the priorities for nature's recovery set out within the LNRS.

By managing their own land to help deliver measures within the LNRS, local authorities can make a direct contribution to nature's recovery in West Sussex.

Local authorities in England must consider and report upon what they can do to conserve and enhance biodiversity under the 'biodiversity duty' (Environment Act 2021). More specifically, local planning authorities and neighbourhood development plans must have regard to this Local Nature Recovery Strategy in their policies (The Levelling-up and Regeneration Act 2023).

In future, Local Plans, Minerals and Waste Plans and Supplementary Plans will have to take account of this LNRS. These legal requirements will apply alongside policy requirements contained in the revised National Planning Policy Framework (NPPF).

Local authorities can use this LNRS to:

- Inform and evidence local plans and policies.
- Inform the selection of development sites, local development boundaries and strategic housing land availability assessments (SHLAA).
- Embed greater links to nature and nature's recovery within their own strategies and management of land.
- Explore opportunities to deliver offsite Biodiversity Net Gain on their own land.
- Identify how best to support and work with communities interested in delivering more nature in their local area.

Wilder Horsham volunteer hedge laying.
© Sam Roberts/Sussex Wildlife Trust

6.3 Protected Landscapes

A large proportion of the land area of West Sussex sits within a protected landscape (South Downs National Park, Chichester Harbour National Landscape, High Weald National Landscape). Protected Landscapes are making increasing contributions to nature's recovery and the Defra guidance expects them to be particularly suitable places for 'areas that could become of importance for biodiversity' to be located. Effort was made throughout the preparation of this LNRS to reflect the priorities of the three protected landscapes within this document to ensure that it is aligned with and can support their efforts to support nature's recovery within their boundaries.

Protected Landscapes authorities/ teams can use this LNRS to:

- Support their efforts to drive the recovery of nature within protected landscape boundaries – sitting alongside and informing the Management Plans for these areas.
- Provide additional information to support their own evidence base, on where action to support nature within their areas might deliver the greatest benefits. This will include the Local Plan for the South Downs National Park, and supporting evidence, prepared by the South Downs National Park Authority.
- Inspire the creation of projects or initiatives to support nature's recovery, within the wider context of the LNRS area and its overall priorities.

Chichester Harbour Saltmarsh © Paul Adams

6.4 Developers

Through Biodiversity Net Gain, developers will be required to ensure that developments leave nature in a better state than before. This may be through including meaningful habitat creation within a development (on-site net gain) or purchasing off-site net gain from a suitable site.

Beyond what is mandatory, developers can go further and work with local planning authorities to create new developments, whatever the scale, that support nature. This can be done by including habitats within their design and ensuring that these retain and enhance connections between habitats across the sites. Including natural greenspaces, tree corridors and features like wildflower plots will create habitats for wildlife, while also improving air quality and promoting better health and wellbeing for residents.

Developers can use this LNRS to:

- Better understand the location of any new/proposed development in relation to its wider environment, habitats and species and reflect this in the design and delivery of the development on-site.
- Help plan suitable habitat creation as part of the development, whether required as compensation or via Biodiversity Net Gain.

The Rolls-Royce Motor Cars plant near Goodwood has the largest 'living roof' in the UK, and is covered in sedum to match the South Downs.

6.5 Environmental Sector

This LNRS has been developed collaboratively with many of the individuals and organisations that make up the environmental sector in West Sussex. Their expert knowledge of our habitats and species has informed the description of the LNRS area, and their practical experience of delivering on the ground has shaped the measures and mapping.

This sector plays a vital role in conserving, restoring and championing the rich natural heritage and biodiversity of West Sussex. It is also a very busy sector. Long serving organisations have been joined by new entities, novel partnerships and projects have emerged and funding and policy changes have created opportunities. In addition, greater awareness of issues has galvanised the public and communities. We are incredibly fortunate that so much is happening on the ground, but its complexity can also lead to confusion and duplicated efforts.

In acting as a container for what's going on and giving us a unique view across West Sussex, this LNRS can help to align efforts, providing a wider context and a mechanism through which to coordinate and direct action at all scales.

The environmental sector can use this LNRS to:

- Benchmark future trends and the effectiveness of its actions.
- Support funding applications from a range of public, private and voluntary sector funding sources.
- Give funders, investors, landowners and delivery partners confidence in the actions and locations that will deliver the greatest benefit for nature.
- Inform their own priorities, actions and strategies (these in turn will inform the next iteration of this LNRS).
- Coordinate action and the development of collaborative projects by showing where the sector can and needs to work together better.
- Inform their work with communities, businesses, local authorities and landowners.
- Support educational programmes and awareness raising.

Young Carers activity day in the woods, part of the Lost Woods of the Low Weald and Downs project.

6.6 The Public and Local Communities

Everyone has the power to make a difference for nature. Hyper-local action is thriving across West Sussex, and many of our local communities are among the strongest advocates for our habitats and species.

This strategy is designed to guide individuals and groups by highlighting the opportunities available with a particular focus on practical, on-the-ground actions that can drive nature's recovery.

It specifically highlights the importance of urban nature and seeks to encourage actions that individuals, groups and local authorities can take to bring more nature into our villages, towns and cities.

The public and communities can use this LNRS to:

- Understand what the priorities for nature are in their local area.
- Find actions within the measures they could take forward, either as new projects or to expand on existing activities, as individuals or as groups.
- Understand how their local natural environment fits within the broader network of habitats and important areas for nature.
- Explore how their actions could make an important contribution to a broader county-wide ambition for nature.
- Inspire others in their local community to get involved in local initiatives that support nature's recovery.

6.7 Businesses and Investors

All businesses can take action to embed nature-friendly practices into their operations and corporate plans, and to invest in nature's recovery. Those with land can also identify priority habitats, species, and recovery opportunities on this land that align with local conservation objectives and will help to make a contribution to the ambitions for nature set out in the LNRS.

Businesses can use this LNRS to:

- Inform their own corporate plans for their contribution to nature recovery.
- Create or enhance green spaces on their premises.
- Understand how their activities fit within the local environmental context.
- Identify opportunities for collaboration – such as staff volunteering schemes or local community nature-based projects or initiatives.
- Water companies can use it to deploy resources for nature-based solutions where they will have the most benefit for the water environment, nature and people.

Investors can use this LNRS to:

- Have confidence in the actions and locations that would deliver the greatest benefits for nature.

6.8 Institutions

Organisations and institutions like the NHS, local schools and universities are often significant landowners and managers, with large estates and campuses which could become assets for nature and people to enjoy.

For these organisations promoting the health benefits of spending time in nature and integrating nature in estates can help to boost the wellbeing of staff, patients and students, improve recovery times and learning outcomes, and provide wider health and wellbeing benefits.

This LNRS includes a specific priority around health, nature and wellbeing focused on the creation of new areas of natural greenspace with health and wellbeing in mind, designed to help people while also helping biodiversity.

The NHS, schools and other local institutions can use this LNRS to:

- Inspire and inform the creation or transformation of greenspaces or gardens on their premises, to provide health and wellbeing benefits (e.g. therapeutic or sensory gardens).
- Build and inspire nature-based educational or health programmes.
- Inform changes in the management of their own estate to benefit nature.
- Engage local communities with action for nature.

6.9 Arms-Length Bodies

Arms-Length Bodies such as Natural England, the Environment Agency and Forestry Commission have played a vital role in developing and guiding this strategy. Together, these bodies have roles in advising landowners on how to manage land, regulating pressures on the natural environment and overseeing public funding for nature.

Arms-Length Bodies can use this LNRS to:

- Inform management and advisory work on protected sites within the context of the wider network of habitats identified within the LNRS.
- Target nature recovery projects, funding and initiatives where they will have the most impact for nature or for wider environmental benefits.
- Target the use of nature-based solutions.
- Target nature-based approaches to dealing with the impacts of climate change, pollution and water quality where these are needed most to support nature and the wider environment.

Section 7.

Looking ahead

Fox

7.1 Enablers for delivery

Following publication of the LNRS, thoughts will turn to delivery and how this ambitious strategy for nature's recovery in West Sussex can be translated into action. Significant interest and commitment to creating this Strategy has been shown across many different stakeholder groups and it is hoped that it will support many in their own efforts to deliver more nature on the ground. However, if progress is to be made on a meaningful scale, several 'enabling' factors have to be in place.

Partnership working

No one organisation or single entity (be it government, a business or non-governmental organisation) can significantly improve the state of nature in West Sussex on its own. Collaboration amongst and between different stakeholder groups including government bodies, environmental organisations, farmers, community groups and businesses is essential to amplify nature recovery efforts. Good collaboration, for example, ensures knowledge and best practice is shared, efforts are not duplicated, that the needs and rights of everyone are considered, and that the project can be managed sustainably over the long term.

In Part 1 of this LNRS we shared the many existing landscape-scale partnerships and projects that are already delivering for nature and stated that these will be our delivery framework. We are fortunate that we have so many demonstrations of collaborative working in our LNRS area, however good collaboration over years needs commitment and energy from all parties to be sustained. More can also be done to improve coordination, funding, and develop a shared vision and communication. Given the scale of the challenge in West Sussex, maintaining existing collaborations, joining them up, and developing new ways to work together will be necessary.

Planting new hedgerows © CPRE Sussex

Funding

Delivering the priorities in this strategy will require funding.

Public funding for nature has traditionally included government grants for landowners and managers such as the Environmental Land Management (ELM) scheme and (at time of publishing) Farming in Protected Landscapes which both incentivise habitat restoration. Other sources of funding include charities and foundations which provide funds and grants for specific projects. The private sector, meanwhile, can finance recovery through mechanisms such as Biodiversity Net Gain, carbon offsetting and other green finance initiatives, or through the use of nature-based solutions which many of our water companies do currently.

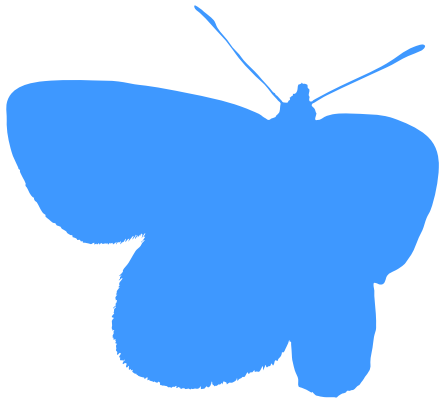
However, while there are numerous potential sources of income, these are often patchy and short term (many funds and grants only provide money for a set number of years) or volatile (emerging nature-based investment markets for the private sector have struggled with uncertain returns, standardisation and appetite). Public funding itself is tied to government budgets and policy cycles, which can shift with elections. Recent changes to ELMs have highlighted the unpredictability of public funding and the impact this has had on landowners and managers who need to ensure that what's good for nature also makes sense financially.

While we hope that the evidence presented in this strategy will support some funding bids and give confidence to investors regarding some nature recovery actions and locations, there is no guarantee that this is the case, and funding generally remains a key challenge.

Supportive Policy Framework

Local Nature Recovery Strategies are potentially powerful place-based tools designed to agree and identify the priorities and actions for nature in each LNRS area. While local in scale, they are part of a national effort to drive the recovery of biodiversity and stem from national legislation and policy.

For the strategies to be effective, though, and not just aspirational, they must sit within a strong, supportive national and local policy framework. Policies should promote nature-friendly action, and to ensure that the strategies have reach and influence, access to funding and support for implementation is essential. Without this, there is a risk that despite the effort and consensus that these documents represent, they will 'sit on the shelf', failing to have the impact they are intended to have.



Individual action, but as part of a wider coordinated system

We all have a responsibility to do more for nature, and every person can make a difference, no matter how small. In our surveys we heard from local people across West Sussex who have made space for nature in their gardens and local areas by, for example, planting wildflowers or native shrubs, creating a wildlife pond, leaving wood piles for insects or putting up nesting boxes. Other respondents mentioned taking part in citizen science including butterfly or bird counts and water testing.

These actions are fantastic, but they are also better when part of something bigger. Small efforts, when joined up, create a **visible movement** that can shift public opinion, influence policy, and attract media attention. Coordination ensures the **right actions are being done in the right places**, informed by data, local knowledge, and shared priorities. When individuals work as part of a larger plan or partnership, it becomes easier to attract funding and pool resources. The success of the West Sussex LNRS will depend on helping to better connect individuals to a wider, more connected network of people and organisations working together to support nature's recovery.

Goldfinch on a bird feeder © iStock.com/bearacreative

7.2 Next Steps

Once this Local Nature Recovery Strategy is published, the Responsible Authority (West Sussex County Council) will develop an agreed delivery plan that turns ambition into action and helps to drive nature's recovery forward.

In collaboration with the East Sussex Responsible Authority, Brighton & Hove City Council and with support from our key delivery partners in Sussex, Defra and Natural England, West Sussex County Council will align resources and develop a structure to guide a new delivery role for the LNRS.

As a Responsible Authority for this LNRS, West Sussex County Council is committed to a bold, long-term vision for nature's recovery. Our close collaboration with East Sussex County Council and Brighton & Hove City Council alongside other local partners will ensure this strategy isn't just words on a page but a catalyst for on-the-ground change.

Updates and detailed next steps will be shared in the months ahead, as we move from publication of the LNRS towards its delivery.

Our delivery role will be to:

- Convene and lead a partnership to guide the delivery of the LNRS, with the Sussex Nature Partnership at its heart.
- Strengthen links within the Responsible Authority and with Supporting Authorities, to embed the LNRS in Spatial Development Strategies, Local Growth Plans, public health initiatives and climate resilience and adaptation programmes.
- Identify, develop and publicise high-impact projects that advance LNRS priorities and showcase best practice.
- Track activities and projects delivering LNRS priorities and sharing progress with Natural England.

Wetland intertidal mudflat, Chichester Harbour, Thorney Island.

Sussex Nature Recovery

A collective blueprint for targeted action

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

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

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

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

View all the documents at:

SussexNatureRecovery.org.uk

June 2026

west sussex county council