MAYOR OF LONDON

London Local Nature Recovery Strategy

Statement of Biodiversity Priorities

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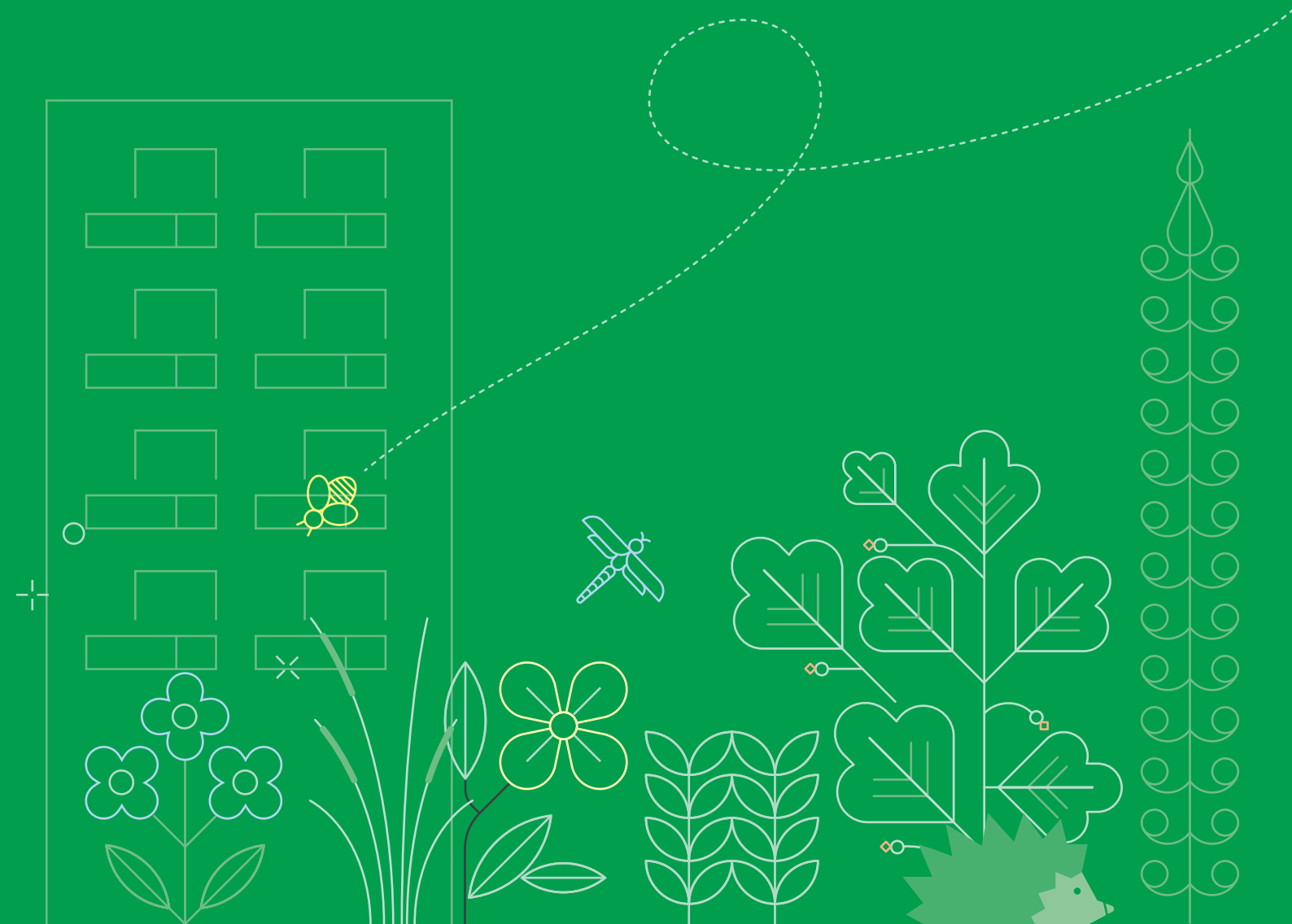

Contents

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Thanks to:

LNRS steering group:

- The Mayor's Green Infrastructure team – chair and secretariat
- Greenspace Information for Greater London CIC (GiGL)
- London Wildlife Trust (LWT)
- Natural England
- The London Environment Directors' Network representatives

LNRS technical task and finish group:

- Association of Local Government Ecologists
- Buglife
- Bumblebee Conservation Trust
- Butterfly Conservation
- City of London Corporation Natural Environment division
- Citizen Zoo
- Countryside Management Association
- Environment Agency
- Forestry Commission
- Froglife
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- London Invasive Species Initiative
- Lee Valley Regional Park Authority
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- Rewilding Action Group
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- Thames21 / River Partnerships in London (RiPL)
- Transport for London
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- ZSL

London LNRS supporting authorities:

- City of London Corporation
- City of Westminster
- London Borough of Barking and Dagenham
- London Borough of Barnet
- London Borough of Bexley

- London Borough of Brent
- London Borough of Bromley
- London Borough of Camden
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- London Borough of Ealing
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- London Borough of Islington
- London Borough of Lambeth
- London Borough of Lewisham
- London Borough of Merton
- London Borough of Newham
- London Borough of Redbridge
- London Borough of Richmond Upon Thames
- London Borough of Southwark
- London Borough of Sutton
- London Borough of Tower Hamlets
- London Borough of Waltham Forest
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- Royal Borough of Greenwich
- Royal Borough of Kensington and Chelsea
- Royal Borough of Kingston upon Thames
- Natural England

LNRS species technical group:

- Buglife
- Butterfly Conservation
- Conchological Society
- Environment Agency
- Forestry Commission
- Independent local species experts (ants and spiders)
- London Amphibian and Reptile Group
- London Bird Club
- London Natural History Society
- London Wildlife Trust
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- Sustain / Capital Growth

Contributors:

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Foreword

A healthy natural environment underpins everything we do. Without it, we wouldn't have clean air to breathe, healthy food to eat or green spaces to enjoy. Nature is essential for our health and wellbeing and provides a vital home for local wildlife. It also builds our resilience to the climate crisis by cooling our cities and reducing the risk of flooding. Yet despite its immense value, nature is in decline globally, and the UK is one of the most nature-depleted countries in the world.

London is one of the world's greenest cities – green and blue spaces make up 52 per cent of the city's surface area. From ancient woodlands to chalk streams, to internationally important sites for stag beetles and wetland birds, our city boasts an incredible plethora of nature. And our parks, rivers and woodlands enrich the daily lives of Londoners. They're where we relax, exercise, play and enjoy the capital's amazing natural heritage and culture. But we know that not all Londoners benefit equally – with people from ethnic minority backgrounds, as well as those affected by poverty and deprivation, less likely to have access to sufficient green space.

Since 2016, I've worked hard to make London greener and fairer by enhancing and protecting nature for the benefit of both Londoners and the environment. We've created the world's largest clean air zone and invested more than £30m in nature and greening. We've reintroduced beavers to Enfield and Ealing and become the world's first National Park City. We've planted more than 600,000 trees, started a rewilding revolution, invested millions in green jobs, and transformed our capital into a global centre for green finance.

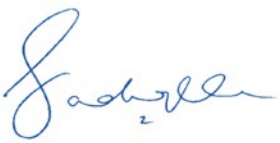
I'm proud that in London, we're leading the way. But I want to do more, which is why I'm making sure our first ever Local Nature Recovery Strategy (LNRS) will support our valuable work across London.

The LNRS is a new spatial tool for London's nature and is one of 48 new strategies across England that aim to reverse biodiversity loss. It sets out which parts of our city's nature require the most urgent attention, how to help them recover, and where resources could have the greatest impact.

It will improve our ability to assist nature recovery and renewal, while supporting the sustainable growth our city urgently needs. The LNRS, alongside my London Green Infrastructure Framework and the updated London Plan, will help us all balance the needs of nature and people – delivering nature recovery action where it's needed most, while creating new liveable neighbourhoods to address our city's housing crisis.

Successful nature recovery depends on collective action, so this strategy has been developed through close collaboration with technical specialists, community groups, boroughs and Londoners. It's designed to be a shared tool – that anyone can use to inform the way they use, manage, improve and develop land in London.

The climate and ecological emergencies are the biggest challenges of our time. But by working together, we can revitalise nature in our city and create a greener, fairer, healthier and more resilient London for all.



Sir Sadiq Khan
Mayor of London

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Executive Summary

Natural spaces offer Londoners places to relax, exercise and play. They also help people connect with themselves and the city's natural heritage and culture. They also serve as essential habitats for wildlife, help protect the people who live and work here from the effects of climate change and play a role in improving air quality. Yet despite its importance, nature is in decline globally and the UK is among the most nature-depleted countries in the world.

Local Nature Recovery Strategies (LNRS) are a new, nationwide system of spatial strategies that aim to help reverse biodiversity loss. There are 48 LNRS areas covering the whole of England.

The Mayor of London has produced Greater London's first LNRS. This new spatial tool maps London's most valuable existing and potential areas for nature for the first time. It identifies the parts of nature most in need of help to recover, outlines the actions needed to improve them, and sets out where those actions could have the greatest impact.

What is nature recovery?

The term 'nature recovery' means increasing and improving nature to help reverse its decline. 'Nature recovery' does not necessarily aim to bring back something that existed in the past, instead it seeks to grow a richer network of nature by improving, connecting, creating and expanding it, while minimising further harm.

A collaborative approach

Successful nature recovery relies on collective action, so the LNRS has been developed through close collaboration with technical specialists, community groups, boroughs and Londoners. It also builds on existing information and strategies, like the London Environment Strategy.

Purpose of the LNRS

The LNRS acknowledges that nature underpins everything people do. The priorities and measures set by the strategy will help to restore a healthy natural environment, which will in turn help clean our air and water and improve our mental and physical health, as well as supporting a thriving economy.

The LNRS is a shared tool to help everyone in London support nature. It can be used by any organisation, group, or person. It provides a framework for coordinated and targeted action for nature in London, aiming to guide city-wide nature recovery that benefits the health of Londoners, biodiversity and climate resilience. Londoners can help with nature recovery by using the LNRS to inform the way they use, manage, improve and develop land.

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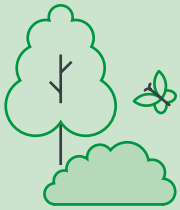
Principles, which should be considered for any nature recovery project



22

primary measures, or broad habitat management actions

30

biodiversity priorities, which represent London's habitats

37

species-specific measures, which provide detailed species management action

© Selborne Society, Harvest mouse reintroduction project

By setting out clear biodiversity priorities, the LNRS will allow people to direct funding and effort where they are most needed and help to ensure that London's most important habitats and species are supported, while enabling and improving London's growth.

The LNRS will provide useful evidence for:

- London-wide and borough-level green infrastructure strategies
- Local Plans and other environmental or land-management plans across the city
- The delivery of biodiversity net gain (BNG), making it easier for new developments in London to meet requirements and improve nature where it is prioritised.

Content of the LNRS

The LNRS is made up of two parts: a **Local Habitat Map** and a 'Statement of Biodiversity Priorities' (including two annexes).

The Local Habitat Map is an interactive online map that identifies two types of land: 1) existing designated nature conservation sites, and 2) opportunity areas for nature recovery action, informed by stakeholder input.

The Statement of Biodiversity Priorities is a technical document that includes:

- A summary of London's existing landscapes and nature (**Chapter 2**)
- Biodiversity priorities for London (**Chapter 3**)
- Proposed actions (known as 'measures') that could deliver those priorities (**Chapter 3**)

The LNRS sets:

- **6** principles – to guide all nature recovery work in London
- **30** biodiversity priorities – tailored to improve London's key habitats
- **22** primary measures – broad habitat management actions
- **37** species-specific measures – targeted actions to help important plants, animals, and fungi.

The six principles that apply everywhere in London are:

- **Help people enjoy nature:** Make it easier for all Londoners to enjoy and connect with nature, while looking after the most sensitive natural areas
- **Bigger, better, more connected and more habitats:** create, improve, and connect a mix of habitats to help nature thrive
- **Boost wildlife populations:** increase species abundance, with a focus on native and threatened species
- **Help pollinators and minibeasts thrive:** support a wide variety of invertebrates that live on land and in water, including pollinators such as bees and butterflies

- **Support healthy soils:** restore and minimise disturbance to soils and fungi to support all biodiversity
- **Protect wildlife from invasive species and disease:** reduce and control invasive species to protect and improve valuable habitats and species.

The biodiversity priorities and measures specify needs around:

- **Urban nature:** support, enhance and connect nature in more urban areas such as parks, gardens, rooftops, and other green spaces. This will provide a range of benefits for people, such as supporting mental and physical health, and help many species including black redstart, peregrine, swift and house martin.
- **Rewilding and re-introductions:** create large-scale areas for nature, to support a diverse range of species in a complementary mix of habitats and to bring back animals and plants that used to live in London, including water voles and beavers.
- **Green corridors:** connect nature spaces across London to help wildlife move through the city.
- **Trees and woodland (including orchards):** plant more trees and look after existing woodlands, orchards, and parklands. This will benefit important species including bats, butterflies and specialist woodland plants and provide cooling for Londoners.
- **Waterbodies and waterways:** create, improve and restore water environments to help nature thrive in rivers, streams, canals, and lakes. This will benefit species including kingfisher, otter and European eel.
- **Wetlands:** create, improve and connect other 'wet' habitats, such as marshland and reedbeds. This includes natural flood management measures, like sustainable drainage systems (SuDS) and constructed wetlands. This will benefit birds and wetland flowering plants, and build climate resilience.
- **Grassland, heath and scrub:** create, improve, and connect nature in grassland, heathland, scrubland, and on farms. This will help support ground nesting birds such as skylark and lapwing, a range of butterflies and harvest mice.
- **'Micro-habitats':** increase specialist habitat areas such as deadwood and patches of sand to benefit specialist insects, fungi and bats.

The LNRS does not give any extra protection to nature sites, but it helps landowners and managers, planners and designers know how best to design, improve and manage land to help London tackle the climate and ecological emergencies through nature recovery.

Introduction

The Local Nature Recovery Strategy (LNRS) is a new spatial strategy for London's nature. It is one of 48 new strategies across England that aim to reverse the decline of biodiversity on a national scale.

Nature is essential to life in London. It provides vital habitat for wildlife, supports a healthy economy, improves people's wellbeing and builds resilience to the impacts of climate change by cooling the city, reducing flood risk and improving air quality. Yet despite the immense value it provides, nature is in decline globally, and the UK is one of the most nature-depleted countries in the world.

The LNRS sets out which aspects of London's nature require most attention, how they can be improved, and where this action should be focused.

There are two parts to the LNRS. Part one is the Statement of Biodiversity Priorities (this document plus two annexes), and part two is the **Local Habitat Map**.

This Statement of Biodiversity Priorities sets out clear priorities for nature in London and the steps needed to achieve these (called 'measures'). The Local Habitat Map highlights where these measures could be carried out to achieve the biodiversity priorities.

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The LNRS sets out which aspects of London's nature require most attention, how they can be improved, and where this action should be focused.

1.1 What is the Local Nature Recovery Strategy (LNRS)?

The Environment Act (2021) introduced a new national requirement to produce LNRSs that identify priorities for nature, the actions needed to achieve these, and a map of locations to focus efforts.

In 2023, the Secretary of State for Environment, Food and Rural Affairs appointed the Mayor of London as the 'responsible authority' for producing a LNRS for Greater London. London is one of 48 LNRS areas. Together, these areas cover the whole of England, with no gaps or overlaps.

The government provided detailed guidance on how an LNRS should be prepared, and the information it should contain, in the **Environment (Local Nature Recovery Strategies) (Procedure) Regulations 2023** ('the LNRS Regulations') and the **Local nature recovery strategy statutory guidance 2023** ('the LNRS guidance'). London's LNRS has been produced in line with these requirements.

The preparation process is summarised in the flowchart in **Figure 1.1**, which has been adapted from the LNRS guidance. Note that, in line with the LNRS Regulations, the LNRS will be reviewed and republished every three to 10 years.

Because this is the first London LNRS, Step 2, 'Map areas where action for nature recovery has been taken' does not apply.

The LNRS is about opportunities for nature recovery. It doesn't give any extra protection to nature and it doesn't stop anything else happening in the areas shown on the Local Habitat Map. However, local planning authorities (like Borough Councils) need to 'have regard' to the LNRS. This means they should think about how their actions and policies interact with the opportunities identified in the LNRS. Government policy about improving nature through development (biodiversity net gain) encourages developers to deliver the measures set out in the LNRS.

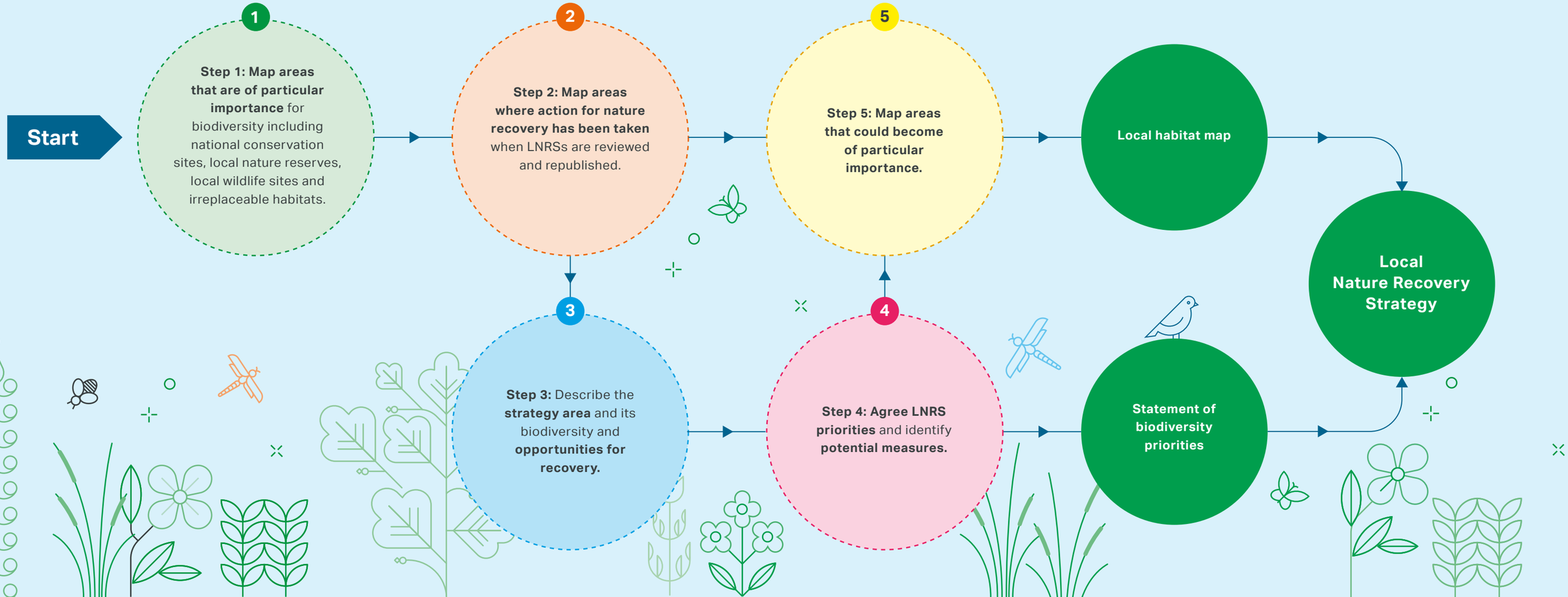

Figure 1.1: Steps in the LNRS process (Defra (2023) Local nature recovery strategy statutory guidance)

1.2 How to navigate the LNRS

This document (the Statement of Biodiversity Priorities) has the following chapters:

- **Chapter 1** introduces what the LNRS is, why it has been prepared and how it fits with existing plans and policies in London.
- **Chapter 2** describes Greater London's existing landscape and nature. Along with **Annex 2**, this is the output of step 3 in **Figure 1.1**.
- **Chapter 3** sets out the priorities for nature in London that have been agreed in developing the LNRS and the measures (actions) needed to achieve them. This is the output of step 4 in **Figure 1.1**.
- **Chapter 4** explains the different parts and limitations of the Local Habitat Map.
- **Chapter 5** sets out next steps to deliver the LNRS.

This document is supported by a series of appendices and annexes. There is also a Method Statement published alongside the LNRS, which explains how it was prepared.

The Local Habitat Map shows existing designated sites and where the measures set out in **Chapter 3** could be carried out to achieve the biodiversity priorities. This is the output of steps 1 and 5 in **Figure 1.1**. There is more information about the Local Habitat Map in **Chapter 4**.

1.3 The London context

Overview

The Greater London Authority (GLA), led by the Mayor of London, was established by the Greater London Authority Act 1999 to provide strategic, London-wide government. The capital's 32 boroughs (and the City of London Corporation) are more similar to other single tier local authorities. The Mayor of London has special responsibility for police and fire services, strategic planning, and transport. There are several existing plans and strategies at both a London-wide and local authority level that are relevant to London's LNRS. An overview of the policy context in London is presented in **Figure 1.2** and explained below.

Policy context

The **London Environment Strategy**[1] (2018) (LES) is the primary London-wide strategy for the environment in London. It brings together approaches to all aspects of the environment and sets out aims, objectives, policies and proposals for the following areas:

- Air quality
- Green infrastructure
- Climate change mitigation and energy
- Waste
- Adapting to climate change
- Ambient noise
- Transition to a low carbon circular economy

The LNRS supports and builds on the content of the LES, helping to achieve Objective 5.2 'Conserving and enhancing wildlife and natural habitats.' It will also support objectives in the strategy to increase London's resilience to climate change.

The **London Plan**[2] sets the framework for development planning in London and details the Mayor's vision for good growth. It includes several environmental policies, addressing biodiversity and access to nature, green infrastructure, waterways and more. The LNRS will provide important data and maps to inform the new London Plan, alongside other evidence.

Within the GLA there are additional relevant plans and strategies, such as Mayoral transport and health inequalities strategies. These include the London Urban Forest Plan (and 2025 actions update), the emerging Clean and Healthy Waterways Plan, the London Surface Water Strategy, and the Integrated Water Management Strategy toolkit.

The **London Rewilding Taskforce** and **London Climate Resilience Review** both published reports[3, 4], with recommendations that were considered in preparing this LNRS.

© London Borough of Lewisham, Forster Park Ancient Woodland Restoration Project

The London Green Infrastructure Framework (LGIF)

The LGIF is the overarching framework and evidence base for London's green infrastructure. It provides updated spatial data across the full range of benefits that GI provides, including nature recovery. The LNRS forms a core part of the LGIF, informing its nature / biodiversity element. Both the LGIF and the LNRS are intended to be informative tools that provide a robust spatial evidence base for green and blue infrastructure in London.

When planning a nature recovery project, the LGIF can help to identify what other strategic objectives and inequalities needs could be met as part of the project. For example, if the project is in an area of high need for access to green and blue space, incorporating public access into any nature projects should be considered. Similarly, a nature recovery project in an area of high need with regards to flooding could help provide a nature-based solution to flood risk.

Local plans and policies

In addition to these London-wide strategies, plans and policies, each of London's 33 local authorities (the boroughs and the City of London Corporation) has its own Local Plan. They also have local environmental strategies addressing issues such as biodiversity, green infrastructure, and the climate emergency, as well as social and economic fairness. It is a legal requirement for Local Plans to 'have regard' to the LNRS.

Although the Mayor of London is the 'responsible authority' for producing London's LNRS, it is a shared strategy. All local authorities, organisations and Londoners can use the LNRS to strategically guide their actions for nature recovery. Local authorities in particular are encouraged to use the LNRS when preparing Local Plans and local Nature Recovery Action Plans to encourage consistency across London.

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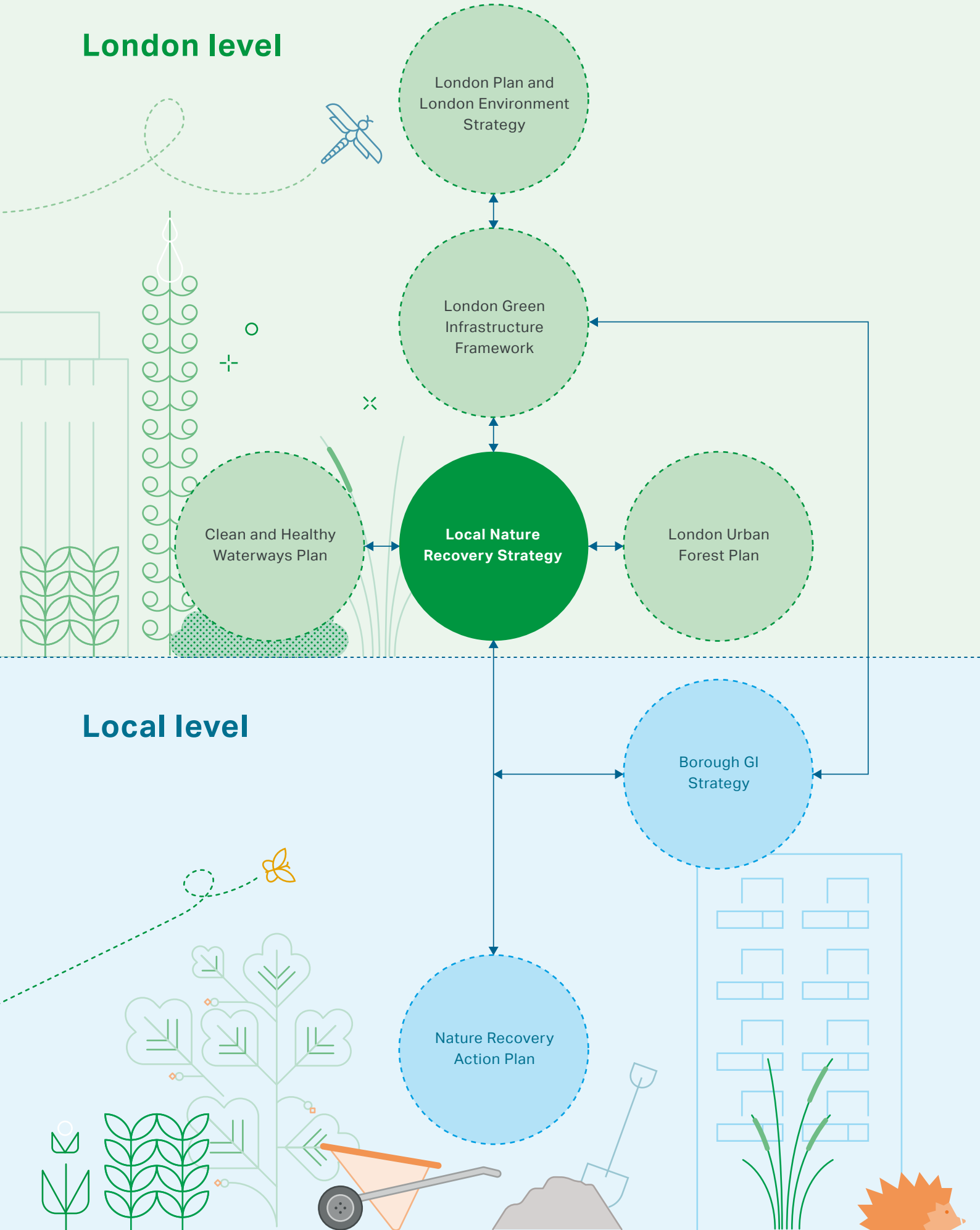
Local authorities in particular are encouraged to use the LNRS when preparing Local Plans and local Nature Recovery Action Plans to encourage consistency across London.

Figure 1.2: Overview of the policy context for the LNRS in London



Description of the strategy area

London has a long history of being a green city, boasting rich and varied landscapes and important habitats. Today, it is one of the world's greenest cities, becoming the first National Park City in 2019. Around half of London's area is 'green'. Around a third of this green space is natural habitats and around 14 per cent is vegetated private garden land. Over 2.5 per cent of London is made up of blue space, such as rivers, canals, and reservoirs[5]. Nature is not only found in these blue and green spaces – it is also on our streets, buildings, and transport networks.

London's various and unique landscapes are important as the places where Londoners can relax, exercise, play, and enjoy the capital's natural heritage and culture. They also provide habitat for wildlife, help protect London from the impacts of climate change, and contribute to improving London's air quality.

London's geodiversity, historic environment, landscape character, habitats and species are described in detail in **Annex 2**. Key natural features in London include the Thames and its tributaries, and large green spaces like the Royal Parks, Epping Forest and the Lea Valley. London has some rare and important habitats and species, for example six of the world's 200 chalk streams flow through London. It also has ancient woodlands and chalk and acid grasslands, which support a host of specialist plants, animals, and fungi. London has internationally important sites for stag beetles and wetland birds like great bittern, gadwall, and northern shoveler.

There are various designations in place to protect nature in London. These include statutory nature designations (like 'sites of special scientific interest' or SSSIs) and London's SINC network. SINCs (Sites of Importance for Nature Conservation) are a non-statutory designation that was first developed in London, and our network remains one of the most comprehensive in the country. The SINC process in London is overseen by the London Wildlife Sites Board[6]. Existing designated sites in London are shown on the Local Habitat Map, and these are described in **Annex 2**.

Nature is inherently valuable but can provide wider benefits for people and the environment too. These benefits include cleaning the air, reducing flooding and improving people's physical and mental health. These benefits are known as ecosystem services and are described in detail in **Annex 2**.

London is a growing city with multiple competing land use demands. By 2050, London is expected to be home to 11.1 million people, compared to around 8.9 million people in 2025. As London grows, its green and blue infrastructure will become ever more vital for several reasons. These include helping to improve Londoners' health, building climate resilience, conserving wildlife, boosting the enjoyment of culture and heritage, and promoting London's economic growth[7].

Changes to London's land use, habitats and species are discussed in **Annex 2**. These changes include increases in woodland and reedbeds, but also the loss of garden land through conversion to paving, decking, or buildings. **Annex 2** also provides a description of the issues, challenges and future pressures facing London's nature (including climate change, pollution, and poor management), alongside an introduction to nature recovery opportunities through policy and partnership.

Priorities and measures for recovering and enhancing biodiversity

The London biodiversity priorities and measures are the aims and actions to recover and enhance nature. These were developed in a series of workshops with technical experts, public inputs to an online map, and by reviewing relevant plans and strategies (see the Method Statement for more details).

Biodiversity priorities are "the end results that the strategy is seeking to achieve" (LNRS guidance, paragraph 51).

Measures are "specific practical actions to achieve" the biodiversity priorities (LNRS guidance, paragraph 51).

In line with the statutory guidance for LNRS, priorities focus on habitat creation and enhancement. The LNRS highlights opportunities to improve and expand the nature network. Protection of existing sites, habitats, and species is vital to a healthy natural environment. However, protection is outside the scope of LNRS and is managed through other, existing means, such as the designated sites network. Other important aspects of nature recovery that are outside the scope of the LNRS are discussed in **Section 3.4**. This includes enabling actions, such as research, education, and monitoring.

The London LNRS sets out:

6
principles

30
biodiversity priorities

22
primary measures

37
species-specific measures

The 30 biodiversity priorities include:

5
priorities to support nature in more urban areas

2
rewilding and reintroduction priorities

1
green corridor priority

6
tree and woodland priorities

4
waterbodies and waterways priorities

4
priorities around creating and improving other wetland habitats

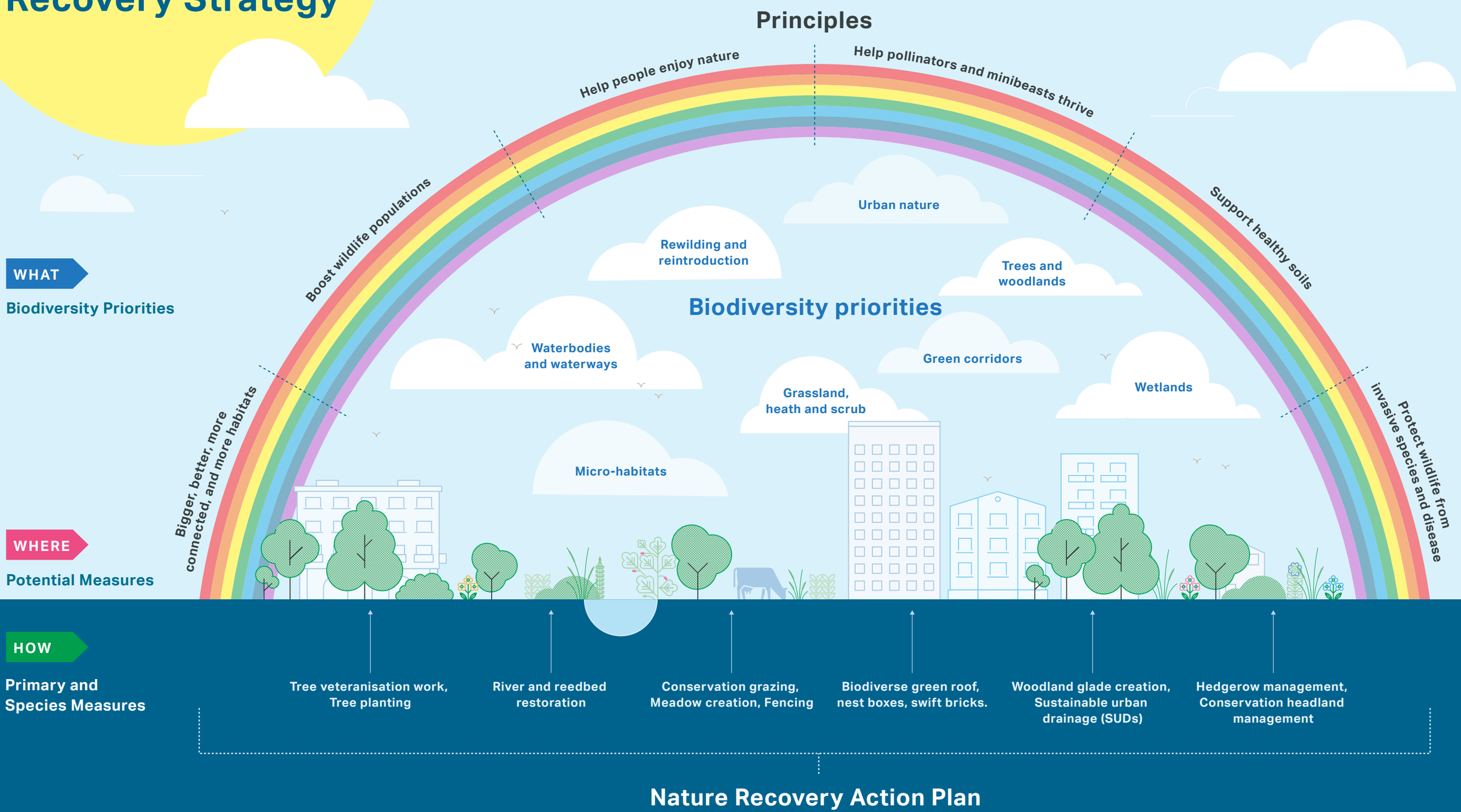
6
grassland, farmland, heath, and scrub priorities

2
'micro-habitat' priorities, relating to deadwood and sand

Priorities generally relate to improving and connecting existing habitat and creating new habitat, where appropriate. However, not all priorities have opportunities for creating new areas of habitat, such as ancient woodlands, rivers and streams, and chalk streams.

Figure 3.1: Gives an overview of the biodiversity priorities and demonstrates how these can be delivered through the measures at locations identified on the Local Habitat Map.

Local Nature Recovery Strategy



The **Local Habitat Map** shows where the identified measures could focus to achieve the biodiversity priorities. Read more about the Local Habitat Map in **Chapter 4**. Some priorities are applicable across all or most of London. These are marked as '(not mapped)' and are not on the Local Habitat Map.

The principles should be considered when planning any project.

Each principle and biodiversity priority has a short title, followed by a description. Each biodiversity priority also sets out:

- **Key species:** these are the most important species that this priority will help. The Method Statement explains more about how these 'LNRS focus species' were chosen. This does not mean that the priorities will only benefit the species listed or that other species are not important.
- **Relevant measures:** one or more measures that will help to achieve the priority. The full list of potential measures and a description of each is included in **Appendix B**. To achieve the associated priority, multiple relevant measures should be delivered on the same site. Not every measure will be relevant to every project. The relevant land manager will be best placed to develop a detailed plan for their site.
    - Sub-bullet points are used to indicate that more specific measures are needed to support the relevant species
- **Wider benefits:** Most priorities will contribute to multiple wider benefits. However, each priority is associated with a primary wider environmental benefit and a primary co-benefit. The four wider benefits reflect the Natural England Green Infrastructure Framework 'why principles' as shown in **Annex 2**.

3.1 Notes on the biodiversity priorities and measures

The biodiversity priorities should be considered together. Any projects to deliver the biodiversity priorities and measures should ensure that contributing to one biodiversity priority would not negatively affect another. Habitat creation should not lead to loss or damage of another important habitat or species.

The LNRS does not remove the need to carry out appropriate project planning before proceeding with your project[8]. Please consider:

- Monitoring and maintenance arrangements
- Desk studies and site surveys needed (including securing appropriate expertise)
- Site constraints that need to be considered in plans (including historic environment features and other environmental considerations)
- Consents and permissions required
- Stakeholder engagement and public consultation.

> The Biodiversity priorities should be considered together.

3.2 Principles

A. Help people enjoy nature

Principle: Make it easier for all Londoners to enjoy, act for, and connect with nature, while looking after the most sensitive natural areas.

Explanation: More opportunities for people to access nature, particularly in areas where this is currently limited, can help improve Londoners' connection to nature, and health and wellbeing (see **Annex 2**). This includes increasing nature where people live, for example by integrating nature into new and existing development. This also includes encouraging sensitive access to and involvement in nature sites, for example through volunteering. People are part of nature, and restoring our connection to nature builds an understanding and appreciation of the natural environment. In turn, this increases people's motivation to care for nature.

Access to nature needs to be balanced with protecting the most sensitive nature areas from disturbance from people and dogs, through access management. Access management could include clear signage and pathways, as well as excluding visitors from the most sensitive areas. However, people are also vital to nature recovery, through work in nature conservation and other environmental professions, volunteering (including participating in citizen science schemes), traineeships, and activism.

B. Bigger, better, more connected, and more habitats

Principle: Create, improve, and connect a mix of habitats to help nature thrive. Nature recovery in and around London should ensure habitats are larger (where possible), better quality and linked to each other. Where the Local Habitat Map shows opportunities to deliver multiple biodiversity priorities on one site, land managers should deliver a mix of habitats there. Opportunities to de-pave/remove hard surfaces, creating new green space and habitat, should be considered as well.

Explanation: The 'Making Space for Nature' review[9] said the UK needs more, bigger, better quality, and more connected habitats. The priorities listed below are not mutually exclusive, and it may be possible to deliver more than one on a site. Habitat corridors (like green corridors and waterways) also help wildlife move to new areas in response to a changing climate. Cross-boundary working is required to ensure connectivity with neighbouring areas.

© Francis Castro, A female stag beetle

C. Boost wildlife populations

Principle: Increase species abundance, with a focus on native and threatened species.

Explanation: Bigger populations are more resilient to change, which means that species are more likely to survive in the longer term. This includes increasing species populations across London through habitat improvements and connectivity between species in different areas. Native species are those that occur naturally in an area and threatened species are those whose numbers are already declining.

Pollution from all sources impacts wildlife populations. The below should be considered for all projects:

- Artificial light – switch to shielded, 'warm' toned or filtered LED external lighting (to minimise blue light emission), on timers/dimmers[10, 11]
- Noise – manage the impact of noise from operations and events
- Air quality – consider planting trees and hedges to screen sensitive areas
- Pesticides/herbicides – reduce and/or phase out
- Water – actively engage with other policy areas to address contamination

D. Help pollinators and minibeasts thrive

Principle: Support a wide variety of invertebrates that live on land and in water, including pollinators such as wild bees, butterflies, and other invertebrates.

Explanation: Invertebrates (animals without a backbone, such as insects, spiders, and snails) provide many critical services, such as pollination and nutrient recycling. They are excellent biological indicators, which means that the types of invertebrates present on a site depend on the habitat quality and climatic conditions. Supporting invertebrates involves ensuring sufficient food plants, nesting sites and refuges, as well as minimising competition from honeybees, and all sources of pollution and pesticide use.

E. Support healthy soils

Principle: Restore and minimise disturbance and erosion to soils and fungi to support all biodiversity.

Explanation: Soils are home to a range of species and, along with the underlying geology, dictate which habitats and species can exist, where. Soils can take hundreds of years to form and are therefore considered to be a non-renewable resource. They can be degraded through erosion, leaching, pollution, and compaction. Healthy soils are a valuable carbon store, filter contaminants, and reduce flooding and drought by storing water.

Fungi are key to supporting the wider ecosystem. They help soil formation and are crucial for decomposition and nutrient cycling. Fungi also have intricate relationships with many plants, making nutrients available for them and enabling interactions between plants. Appropriate restoration techniques will depend on the site, but could include encouraging native ground flora, soil aeration, and conservation grazing. Some habitats require richer soils so nutrient enhancement may be required. However, some species specialise in nutrient-poor soils and appropriate measures will be required to remove excess nutrients.

© Natural England, Waxcap mushroom

F. Protect wildlife from invasive species and disease

Principle: Reduce and control invasive species to protect and improve valuable habitats and species.

Explanation: Invasive species are those that spread quickly and cause harm to people and / or the environment. This priority includes removal / control of both non-native and native invasive species. The river catchment partnerships are very well placed to play a key role for tackling wetland invasive species. It also means co-ordinating and implementing biosecurity measures to ensure nature recovery projects do not introduce or encourage the spread of invasive species, pests, and diseases. **The London Invasive Species Initiative (LISI**) has compiled a list of species of concern for London[12]. Invasive species and diseases should be regularly reviewed to ensure they take account of new and emerging threats. The latest list should be referred to when considering this principle.

While relevant to all habitats, the biodiversity priorities below highlight where a particular invasive species needs to be managed to support one of the shortlisted species.

3.3 Biodiversity priorities

All priorities in this section are equal in importance. The numbering does not imply a ranking.

Urban nature priorities

1. Buildings (not mapped)

Priority: Restore, expand, create, and connect spaces for nature in more urban environments. This particularly includes nature-positive features in / on buildings, and well-designed, nature-friendly lighting.

Explanation: This priority includes urban greening and features that would be suitable on buildings and adjoining streets across London. For example, well designed and maintained green walls (on non-residential buildings), green roofs, swift / bat / bee bricks, and other nest boxes, in line with building regulations and planning requirements[13]. These interventions should be designed to be as multi-functional as possible, using design codes to contribute for both net-zero and nature recovery[14]. They can provide habitat connectivity across London but also vertically, from the ground to the top of buildings. They could help to meet other biodiversity priorities, particularly 'green corridors'. Note that street trees are covered by the ‘trees’ priority.

Key species

A 'buildings' species assemblage has been identified, including the following (the full assemblage is in **Annex 1**): song thrush, black redstart, peregrine falcon, swift, and house martin.

Relevant measures

- M3 – Wildlife shelter creation
- M4 – Import suitable substrate for habitat creation
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M19 – Greening structures
  - S33 – Biodiverse green roof construction
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites
  - S34 – Nest boxes
  - S35 – Swift bricks (for swift, house sparrow, and house martin)

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly managing heat risk, as well as improved water management, particularly managing flood risk.
- Primary co-benefit: Thriving and prosperous communities, as well as active and healthy places, particularly improving physical and mental health.

2. Parks and open spaces

Priority: Increase ecological value and connectivity of parks and open spaces.

Explanation: This includes London's large parks, as well as smaller, neighbourhood parks, recreation grounds, squares, greens, and other communal green space. Valued for a range of recreational uses, it can also include creating habitat in support of one or more of the other biodiversity priorities. Where the Local Habitat Map (measures layer) shows areas for delivery of other priorities within a park / open space, this helps identify the best measures for that park or open space. Where other habitats, such as rivers and canals, pass through parks and open spaces, relevant biodiversity priorities should be considered together.

Key species

A 'parks and open spaces' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): Brown long-eared bat, Nathusius' pipistrelle bat, red-shanked carder bee, vipers bugloss mason bee, skylark, hedgehog, and house sparrow.

Relevant measures

- M1 – Exclusion measures
  - S2 – Fencing for protection of key species and re-introduction enclosures (for skylark)
- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures

- M3 – Wildlife shelter creation
- M4 – Import suitable substrate for habitat creation
- M5 – People management
- M6 – Tree and woodland management
  - S10 – Woodland glade restoration / creation
- M7 – Woodland creation
- M8 – Tree planting
  - S16 – Tree planting
- M9 – Hedgerow creation
  - S17 – Hedgerow creation
- M10 – Hedgerow management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M12 – Scrub creation
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M14 – Grassland and heathland creation
  - S23 – Meadow creation
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
- M16 – Watercourse restoration
- M17 – Standing water creation
- M18 – Standing water restoration / management
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, including managing heat risk, carbon sequestration and carbon storage.
- Primary co-benefit: Active and healthy places, particularly physical and mental health, and access to green space.

3. Urban mosaic

Priority: Restore, expand, create, and connect urban mosaic habitats, such as allotments, community gardens, churchyards, and cemeteries.

© GLA, Beaver released in Paradise Fields, Ealing Beaver Project

Explanation: Urban mosaic is not a standard habitat type but is used in this LNRS to recognise the diversity of important urban habitats in London. It is not the same as Open Mosaic Habitat. Urban mosaic describes areas that tend to have a mix of bare ground, vegetation, shrubs, and trees, that usually have moderate levels of disturbance. This includes allotments, community gardens, churchyards, and cemeteries, many of which are also important heritage assets. Lower levels of disturbance help to support ground nesting wildlife, particularly wild bees and wasps. This may also help retain host plants for butterflies and moths.

As urban mosaic is a mixed habitat, this priority overlaps with others, which could occur on the same sites.

The 'buildings' priority is closely linked to urban mosaic and shares LNRS focus species.

Relevant measures

- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M3 – Wildlife shelter creation
- M5 – People management
- M6 – Tree and woodland management
- M8 – Tree planting
  - S16 – Tree planting
- M9 – Hedgerow creation
  - S17 – Hedgerow creation
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M12 – Scrub creation
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M17 – Standing water creation
- M18 – Standing water restoration / management
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites
  - S34 – Nest boxes

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places, particularly access to nature.

4. Private green space (not mapped)

Priority: Increase ecological value and connectivity of private green space, such as residential gardens (including shared gardens) and school grounds. Opportunities to de-pave/remove hard surfaces, should be especially considered.

Explanation: Much habitat in London exists in private gardens, private squares, and areas around buildings such as schools and hospitals, many of which are important heritage assets. These spaces can provide important wildlife refuges,

particularly in the urban area. They can help to connect other green spaces across the city, including parks and nature sites. This priority encourages the people who own and manage these spaces to provide new and improved habitat in these areas.

Note that there are no LNRS focus species for this priority.

Relevant measures

- M2 – Wildlife connectivity
- M3 – Wildlife shelter creation
- M8 – Tree planting
- M9 – Hedgerow creation
- M10 – Hedgerow management
- M15 – Grassland and heathland management
- M17 – Standing water creation
- M18 – Standing water restoration / management
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places, particularly access to nature.

5. Open mosaic habitat

Priority: Restore, expand, create, and connect open mosaic habitats on previously developed land.

Explanation: Open mosaic habitats usually occur on previously developed land (brownfield sites). They consist of of a mix of bare ground and vegetation such as grassland, flowers, and scrub. It is generally a transient habitat, unless increasing vegetation and scrub is managed. It often includes more extreme conditions, which can lead to a diverse mix of species, particularly invertebrates. As a mixed habitat, open mosaic habitats may overlap with other biodiversity priorities, such as grassland and scrub.

Key species

An 'open mosaic habitat' species assemblage has been identified. This includes the following (the full assemblage is set out in **Annex 1**): Tower mustard, shrill carder bee, and streaked bombardier beetle.

Relevant measures

- M3 – Wildlife shelter creation
- M5 – People management
- M6 – Tree and woodland management
- M10 – Hedgerow management
- M11 – Scrub management
  - S19 – Scrub cutting / removal

- M12 – Scrub creation
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management
- M19 – Greening structures
- M21 – Nesting sites

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places, particularly access to nature.

Rewilding and re-introduction priorities

6. Large scale rewilding

Priority: Create large-scale nature recovery areas that support a diverse range of species in a complementary mix of habitats. This may include varying levels of management intervention with the aim of creating large areas of connected habitats.

Explanation: 'Rewilding' is used to describe a variety of nature conservation projects at every scale. All scales of rewilding are encouraged, including stepping stones and small-scale projects, where they help to improve and expand the London nature network, build connections between existing wildlife sites, and achieve other biodiversity priorities. However, this priority focuses on large-scale rewilding. This means process-driven nature recovery over large, adjoining areas of land (ideally at least 100 ha). Generally, this is led by natural processes and with minimal human intervention. Because rewilding allows natural processes to take place, it is less prescriptive with regards to measures and outcomes than other priorities. The IUCN guidelines for rewilding, provide the foundation of the approach[15].

The **London Rewilding Taskforce** identified 11 potential large-scale rewilding opportunity zones in London[16], shown on the Local Habitat Map. These areas are large, indicative opportunity areas. As such, there may be areas within them that are prioritised for other uses or that are actively managed for nature. For actively managed sites there will be no requirement for particular 'rewilding' interventions, such as large herbivore grazing, but they should consider how they can best contribute to connectivity with the surrounding zone. The map sometimes shows areas for delivery of other priorities within a rewild opportunity zone. This helps identify which habitats are most suitable for that part of the zone.

Relevant measures

The nature of large-scale rewilding will create and link many different habitats, requiring many different measures. Appendix 3 of the London Rewilding Taskforce final report describes each

rewilding zone in more detail. Examples of relevant measures for each of the 11 rewilding zones are provided on the Local Habitat Map. These are not exhaustive, and many measures will be relevant. Examples for each zone include:

Zone 1 – Enfield Chase

- M7 – Woodland creation
- M10 – Hedgerow management
- M15 – Grassland and heathland management
- M16 – Watercourse restoration
- M17 – Standing water creation

Zone 2 – Fairlop Plain to Dagnam Park

- M6 – Tree and woodland management
- M15 – Grassland and heathland management
- M16 – Watercourse restoration

Zone 3 – Ingrebourne Valley

- M3 – Wildlife shelter creation
- M7 – Woodland creation
- M16 – Watercourse restoration

Zone 4 – Havering East

- M5 – People management
- M7 – Woodland creation
- M10 – Hedgerow management

Zone 5 and 6 – Thames Marshes (North and South)

- M11 – Scrub management
- M22 – Floodplain and intertidal management

Zones 7 and 8 – Croydon and Bromley Downs

- M2 – Wildlife connectivity
- M7 – Woodland creation
- M15 – Grassland and heathland management

Zone 9 – Gutteridge Farm and Ten Acre Woods

- M15 – Grassland and heathland management
- M16 – Watercourse restoration

Zone 10 – Colne Valley and Ruislip Woods

- M2 – Wildlife connectivity
- M16 – Watercourse restoration
- M17 – Standing water restoration / management

Zone 11 – Harrow Weald to Stanmore

- M6 – Tree and woodland management
- M16 – Watercourse restoration

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, including managing heat / fire / drought risk, and carbon sequestration and storage. Rewilding is also likely to bring improved water management benefits, including managing flood risk and improving water quality.
- Primary co-benefit: Thriving and prosperous communities, particularly attracting inward investment and supporting the visitor economy. Rewilding areas open to the public will also contribute towards active and healthy places.

7. Species re-establishment and re-introduction (not mapped)

Priority: Reintroduce populations of locally extinct species, particularly where these would support the wider ecosystem and bring wider environmental benefits.

Explanation: Locally extinct species are those that once existed in an area but are no longer found there. For some, the environment may no longer be suitable – those species would not be covered by this priority. However, others may have become extinct through a threat that is no longer present or can be suitably managed. As such, there is a possibility of re-establishing the population. Reintroductions should complement work to stabilise and increase populations of existing priority species and be informed by appropriate feasibility studies, with peer support and guidance provided by groups, such as the London beaver and water vole working groups. The re-introductions code and guidance for England must be followed for any

species re-introduction or conservation translocation[17].

Key species

Beaver, water vole, otter, hedgehog, juniper, glow-worm, black poplar, and Centromerus serratus (a spider species) are some of the species that were flagged in engagement work with potential for re-introduction. The full list is included in **Annex 1**. There may also be opportunities to introduce other locally extinct species. Note that further work is needed to determine suitable areas for reintroducing species, although the London Water Vole Recovery Programme has identified a number of potential sites for water vole reintroduction[18].

Relevant measures

Relevant measures depend on the species being reintroduced. Measures to support species re-introductions could include:

- M1 – Exclusion measures
- M6 – Tree and woodland management
- M8 – Tree planting
- M11 – Scrub management
- M15– Grassland and heathland management
- M16 – Watercourse restoration

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, including managing heat / fire / drought risk, and carbon sequestration and storage. Reintroducing wetland species is also likely to bring improved water management benefits, including managing flood risk and improving water quality.
- Primary co-benefit: Thriving and prosperous communities, including attracting inward investment and supporting the visitor economy.

Green corridor priority

8. Green corridors

Priority: Restore, expand, create, and connect terrestrial linear habitats.

Explanation: Improving and creating habitat corridors can connect existing wildlife populations. Green corridors can include continuous linear habitats, for example along railway lines, road verges, streets, public rights of way, and land alongside waterways, or a series of nearby ‘stepping stone’ habitats. This includes dark sky corridors to help deliver Principles B, C, and D. While ‘blue corridors’ are covered separately by the ‘rivers and streams’ priority, the two can often be delivered together. Note that the Local Habitat Map focuses on green corridors between sites. Creation of linear habitats within sites is encouraged, where appropriate, but is not mapped. Where the Local Habitat Map (measures layer) shows areas for delivery of other priorities within a green corridor, this helps identify which habitats are most suitable for that part of the corridor.

Key species

A 'green corridors' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): brown hairstreak butterfly, white-letter hairstreak butterfly, song thrush, Essex skipper butterfly, harvest mouse, house sparrow and hedgehog.

Relevant measures

- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M3 – Wildlife shelter creation
- M6 – Tree and woodland management
- M8 – Tree planting
- M9 – Hedgerow creation
  - S17 – Hedgerow creation
- M10 – Hedgerow management
  - S18 – Hedgerow management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M12 – Scrub creation
  - S21 – Scrub – block planting
- M13 – Bare ground management / creation
  - S22 – Bare ground creation/ clearance, chalk scrapes
- M14 – Grassland and heathland creation
  - S23 – Meadow creation (for earthworms Aporrectodea icterica and Aporrectodea nocturna)
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
- M19 – Greening structures
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites
  - S34 – Nest boxes (for peregrine falcon)
  - S35 – Swift bricks (for swift and house martin)

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly managing heat risk.
- Primary co-benefit: Active and healthy places, particularly improving physical and mental health and access to nature.

Tree and woodland priorities

The London Urban Forest Plan[19] and actions update[20] compliment the priorities in this section. The London Urban Forest Resource Hub[21] also provides a useful resource to consider alongside these tree and woodland priorities. The management of deer must also be considered for all woodland habitats[22].

9. Wood pasture and parkland

Priority: Restore, expand, create, and connect wood pasture and parkland.

Explanation: Wood pasture and parkland is a mixed habitat of trees and more open, grassland areas that is managed through grazing[23] and/or mechanical cutting. Some areas of wood pasture are very old, containing ancient and veteran trees. Wood pasture also often includes standing and fallen deadwood. This means there is an overlap with 'ancient trees and woodland' and 'deadwood' priorities. Note that the grassland areas of wood pasture may benefit from measures listed for other relevant priorities (see **Grassland, heathland, scrub and farmland priorities**).

Key species

A 'wood pasture' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): Western barbastelle, crimson bolete, cardinal click beetle, grizzled skipper butterfly and wood sage pearl moth.

Relevant measures

- M1 – Exclusion measures
- M5 – People management
- M6 – Tree and woodland management
  - S6 – Creation of standing deadwood
  - S8 – Veteranisation works
  - S9 – Woodland ride / woodland edge restoration / creation
  - S12 – Tree thinning works around veteran trees
- M7 – Woodland creation
  - S14 – Wood pasture planting
- M8 – Tree planting
- M11 – Scrub management
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management
  - S24 – Conservation grazing

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly carbon sequestration and storage.
- Primary co-benefit: Active and healthy places, particularly access to nature.

10. Ancient trees and woodland

Priority: Improve management of ancient trees, veteran trees and ancient woodlands[24] to increase their longevity and improve resilience.

Explanation: Ancient woodlands are sites that have been covered in woodland since 1600 (in England) and are important heritage assets. As these sites have been wooded for so long, they are irreplaceable, and many species are closely associated with them[25]. Due to their age, ancient trees have certain characteristics, such as small canopies and wide and often hollow trunks[26]. In some cases, many ancient trees are found as part of

another habitat. As such, this priority links strongly with other priorities, such as 'wood pasture and parkland'. It is recommended that a buffer of other semi-natural habitat is retained around ancient trees and woodlands, where possible, to protect their roots[27].

Key species

An 'ancient woodland' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): Western barbastelle bat, herb paris, wild strawberry, midas tree-weaver, Centromerus serratus (a spider) and the silver washed fritillary butterfly

Relevant measures

- M1 – Exclusion measures
  - S2 – Fencing for protection of key species and re-introduction enclosures for Centromerus serratus.
- M6 – Tree and woodland management
  - S6 – Creation of standing deadwood
  - S7 – Creation of deadwood / woodchip piles
  - S8 – Veteranisation works
  - S9 – Woodland ride / woodland edge restoration / creation
  - S11 – Coppicing

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, carbon sequestration and storage, and improved water management, particularly managing flood risk.
- Primary co-benefit: Thriving and prosperous communities and active and healthy places, particularly access to nature.

11. Wet woodland

Priority: Restore, expand, create, and connect wet woodland, particularly in areas at risk of flooding.

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Explanation: Wet woodland, also known as 'carr', is woodland that occurs on soils that are usually or seasonally wet. It is found mainly along rivers and streams and around other wetland habitats[28]. The 'deadwood' priority is also relevant in wet woodlands.

Key species

A 'wet woodland' species assemblage has been identified, including the following (the full assemblage is detailed in **Annex 1**): Purple emperor butterfly, greater tussock sedge and wood club-rush.

Relevant measures

- M1 – Exclusion measures
- M6 – Tree and woodland management
  - S10 – Woodland glade restoration / creation
  - S11 – Coppicing
- M7 – Woodland creation
  - S15 – Woodland – natural regeneration
- M11 – Scrub management
- M12 – Scrub creation
  - S20 – Scrub – natural regeneration
- M16 – Watercourse restoration
  - S28 – Natural flood management
- M17 – Standing water creation
- M18 – Standing water restoration / management
  - S31 – Pond and lake restoration / management
- M22 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefits: Resilient and climate positive places, carbon sequestration and storage, and improved water management, particularly managing flood risk.
- Primary co-benefit: Thriving and prosperous communities, including increasing green jobs and attracting inward investment.

12. Orchards

Priority: Restore, expand, create, and connect traditional orchards, and manage them in a nature-friendly way.

Explanation: Traditional orchards can include fruit and nut trees, planted at low densities, and managed in a low-intensity way. As such, they have a mix of trees and grassland, supporting a range of wildlife[29]. Orchards include deadwood and grassland areas, which are often managed for nature. This means there is an overlap with grassland priorities, particularly 'lowland meadow', and the 'deadwood' priority.

Key species

An 'orchard' species assemblage has been identified, including the following (the full assemblage is in **Annex 1**): mistle thrush, song thrush, and orchard tooth fungus.

Relevant measures

- M6 – Tree and woodland management
  - S13 – Orchard conservation management
- M8 – Tree planting
  - S16 – Tree planting
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly carbon sequestration and storage.
- Primary co-benefit: Active and healthy places, particularly access to nature.

13. Trees and hedgerows (not mapped)

Priority: Expand hedgerow and tree cover outside of woodlands, especially on streets in areas of low canopy cover and habitat connectivity, and improve resilience of existing tree populations and hedgerows.

Explanation: Tree planting is suitable across London, particularly in the more built-up areas, providing it would not lead to loss of another valuable habitat. This should follow the principle of 'right tree, right place, right reason', while ensuring genetic and species diversity. Factors such as climate resilience and seasonality of canopy, nectar, and fruits should inform which species are planted to maximise value to wildlife[30, 31] .

This will ensure that the species of tree planted are suitable for the local context and improve resilience of the urban forest.

Hedgerows are linear habitats of trees and shrubs, plus associated features, such as banks. They provide important nesting areas, shelter, food, and movement corridors for wildlife. Thick hedgerows that include a variety of tree and shrub species generally have the greatest biodiversity value.

Note that there are no LNRS focus species for this priority.

Relevant measures

- M6 – Tree and woodland management
- M8 – Tree planting
- M9 – Hedgerow creation
- M10 – Hedgerow management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, such as managing heat risk, and carbon sequestration and storage, and improved water management, managing flood risk.
- Primary co-benefit: Thriving and prosperous communities and active and healthy places, particularly improving air quality and access to nature.

14. Woodland

Priority: Restore, expand, create, and connect species-rich broadleaved, mixed and yew woodland. This will help meet the London Environment Strategy target of an additional 200 ha of woodland by 2050.

Explanation: Broadleaved woodland is made up of trees that do not have needles and usually drop their leaves in autumn. Mixed woodland includes a mix of broadleaved trees and coniferous trees (those with needles or scales for leaves). Local geology, soils, history of the woodland, and suitability for future climates should be used to identify appropriate tree species and provenance for a particular site. The 'deadwood' priority is also relevant in woodlands.

Key species

A 'woodland' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): white admiral butterfly, various fungi, Nathusius' pipistrelle bat, and brown long-eared bat.

Relevant measures

- M1 – Exclusion measures
- M5 – People management
- M6 – Tree and woodland management
  - S9 – Woodland ride / woodland edge restoration / creation
  - S10 – Woodland glade restoration / creation
  - S11 – Coppicing
  - S12 – Tree thinning
- M7 – Woodland creation
  - S15 – Woodland – natural regeneration
- M8 – Tree planting
  - S16 – Tree planting
- M16 – Watercourse restoration

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly managing heat risk, carbon sequestration and carbon storage.
- Primary co-benefit: Active and healthy places, particularly access to nature.

Waterbodies and waterways priorities[32]

The river catchment partnerships covering Greater London can help to coordinate many of the measures related to these priorities[33], in conjunction with the Clean and Healthy Waterways Plan. For all of the below priorities, it is recommended that a buffer of other semi-natural habitat is retained around waterbodies and waterways, to address any land use change or planting that could impact the health of the river.

15. Ponds and lakes

Priority: Restore, expand and create a network of ponds and lakes. This includes creating a variety of pond and lake types, including ephemeral ponds.

Explanation: Ponds are smaller than lakes (up to 2 ha), but both can provide wildlife habitat. Managing and creating a range of different ponds will support the biggest variety of nature. This includes ponds at different successional stages, permanent and ephemeral ponds. Ephemeral ponds are those that dry out seasonally. This generally makes them unsuitable for fish[34], but means they may suit other species. Natural ponds tend to be more diverse, although artificial ponds can also be beneficial to wildlife. Ponds may be created as part of a floodplain habitat. As such, potential measure locations may overlap with those for other priorities.

Key species

A 'ponds and lakes' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): common toad, great crested newt, common kingfisher, common tern, little ringed plover, harvest mouse, European water vole and otter.

Relevant measures

- S1 – Invasive species management
  - — American mink eradication to further water vole conservation effort (see the LISI Species of Concern list for other species considered to be of greatest concern in London)
- M1 – Exclusion measures
- M2 – Wildlife connectivity
  - — S4 – Wildlife corridors installed on / under / over structures
- M3 – Wildlife shelter creation
- M5 – People management
- M6 – Tree and woodland management
- M11 – Scrub management
  - — S19 – Scrub cutting / removal
- M15 – Grassland and heathland management
  - — S25 – Grass and heathland cut and collect management
- M16 – Watercourse restoration
  - — S30 – Aquatic vegetation management
- M17 – Standing water creation
- M18 – Standing water restoration / management
  - — S31 – Pond and lake restoration / management
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites
  - — S36 – Nest banks for bank-nesting birds

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly managing flood risk, and improving water quality.
- Primary co-benefit: Thriving and prosperous communities and active and healthy places, particularly access to nature.

16. Rivers and streams

Priority: Restore and connect river and stream corridors in terms of function, physical structure, water quality and riparian habitat. This will help meet the London Environment Strategy target of restoring 40km of rivers and streams by 2050.

Explanation: This priority covers the water itself, the riverbed, and other in-channel features. It also includes the banks of the river or stream, vegetation in the water and on the land immediately around watercourses (riparian land). Note that rivers and streams are influenced by the wider area that drains into them (their 'catchment') and therefore measures need to be considered at a catchment scale. Restoring river function includes reconnecting waterbodies to the floodplain, therefore this priority overlaps with the 'floodplain' priority. It is also closely linked to the 'Tidal Thames margins', which covers the intertidal area. Other examples of river and stream restoration include daylighting (opening up buried / covered watercourses), backwater creation, removal of artificial banks and barriers (such as weirs) and re-meandering. Sustainable drainage systems (SuDS) are likely to play a particular role in river restoration in more urban areas.

Key species

A 'rivers and streams' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): common kingfisher, brown trout, sand martin, water vole, European eel, and otter.

Relevant measures

- S1 – Invasive species management
  - American mink eradication to further water vole conservation effort (see the LISI Species of Concern list for other species considered to be of greatest concern in London)
- M1 – Exclusion measures
- M2 – Wildlife connectivity
  - S3 – Removal or mitigation of barriers to fish passage (such as weirs)
- M4 – Import suitable substrate for habitat creation
- M5 – People management
- M6 – Tree and woodland management
- M8 – Tree planting
- M11 – Scrub management

- M12 – Scrub creation
- M16 – Watercourse restoration
  - S28 – Natural flood management
  - S29 – River restoration (including in-channel enhancement)
  - S30 – Aquatic vegetation management
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites
  - S36 – Nest banks for bank-nesting birds

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly managing flood risk and improving water quality.
- Primary co-benefit: Thriving and prosperous communities and active and healthy places, particularly access to nature.

17. Canals and reservoirs

Priority: Improve biodiversity value of canals and reservoirs. This includes in-water improvements as well as improvements to the banks, while still allowing commercial and recreational use of them, as required.

Explanation: Canals and reservoirs are both features made by humans for purposes other than biodiversity (namely transportation and water storage). However, they can provide habitat for

© Thames 21, Small copper butterfly

a range of species that either live in or rely on slow-moving water. This priority also includes the banks, vegetation in the water, and the land immediately around canals and reservoirs. They are influenced by the wider area that drains into them, therefore measures need to be considered at a catchment scale.

Key species

A 'canals and reservoirs' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): common kingfisher, common toad, common tern, European water vole and otter.

Relevant measures

- S1 – Invasive species management
  - American mink eradication to further water vole conservation effort (see the LISI Species of Concern list for other species considered to be of greatest concern in London)
- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M5 – People management
- M11 – Scrub management
- M16 – Watercourse restoration
  - S30 – Aquatic vegetation management
- M18 – Standing water restoration / management
  - S31 – Pond and lake restoration / management
- M21 Nesting sites
  - S36 – Nest banks for bank-nesting birds

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly improving water quality.
- Primary co-benefit: Active and healthy places, particularly improving air quality, improving physical and mental health, and improving fair access to green space.

18. Chalk streams

Priority: Restore and maintain chalk rivers and streams.

Explanation: Chalk rivers and streams are watercourses that occur in areas of chalk bedrock. These tend to make the water clear and rich in minerals, with potential to support lots of different species. Chalk streams include unique plant communities, which impact their hydrological function[35]. Six of the world's 200 known chalk streams flow through London. The Big Chalk partnership helps to coordinate nature recovery action for chalk habitat in London and across southern England[36].

Key species

The 'rivers and streams' species assemblage is also relevant to chalk

streams. This assemblage includes the following (the full assemblage is set out in **Annex 1**): common kingfisher, brown trout and water vole.

Relevant measures

- S1 – Invasive species management
  - American mink eradication to further water vole conservation effort (see the LISI Species of Concern list for other species considered to be of greatest concern in London)
- M1 – Exclusion measures
- M2 – Wildlife connectivity
  - S3 – Removal or mitigation of barriers to fish passage (such as weirs)
- M4 – Import suitable substrate for habitat creation
- M5 – People management
- M6 – Tree and woodland management
- M8 – Tree planting
- M11 – Scrub management
- M12 – Scrub creation
- M16 – Watercourse restoration
  - S28 – Natural flood management
  - S29 – River restoration (including in-channel enhancement)
  - S30 – Aquatic vegetation management
- M20 – Sustainable drainage systems (SuDS)
- M21 – Nesting sites
  - S36 – Nest banks for bank-nesting birds

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly improving water quality.
- Primary co-benefit: Active and healthy places, particularly access to nature.

Wetland priorities

19. Floodplain

Priority: Restore, expand, create, and connect floodplain habitats, including floodplain grazing marsh, and ditches.

Explanation: This priority relates to a range of wet habitats along rivers and streams that are subject to flooding. It should be considered alongside the 'rivers and streams' priority and the 'Tidal Thames margins' priority. As with the 'rivers and streams' priority, SuDS are likely to play a key role in creating floodplain habitat, particularly in more urban areas. Note that while wet woodland is often a floodplain habitat, it is covered by a separate priority.

Key species

A 'floodplain' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): Essex skipper butterfly,

common tern, ragged-robin and a variety of other wetland flowering plants.

Relevant measures

- M11 – Scrub management
- M12 – Scrub creation
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
- M16 – Watercourse restoration
- M17 – Standing water creation
- M18 – Standing water restoration / management
  - S31– Pond and lake restoration / management
- M20 – Sustainable drainage systems (SuDS)
- M22 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly managing flood risk.
- Primary co-benefit: Thriving and prosperous communities, as well as active and healthy places, where access is provided.

20. Tidal Thames margins

Priority: Restore, expand, create, and connect habitats along the tidal Thames and its foreshore for species that rely on these areas, where appropriate. This includes intertidal habitat, coastal grazing marsh, coastal saltmarsh, and coastal vegetated shingle.

Explanation: The tidal Thames refers to the part of the River Thames from Teddington to Southend-on-Sea, falling under the South East Inshore Marine Plan area[37]. It also includes tidal parts of tributaries leading to the Thames. This priority relates to habitats found along this part of the river (the main body of the river itself is covered under the 'rivers and streams' priority). This includes intertidal areas, and habitats associated with coastal areas. Intertidal habitat refers to areas that are covered by water at high tide but uncovered at low tide. Coastal grazing marsh is pasture or meadow that is regularly flooded. Saltmarsh consists of vegetated parts of mudflats. In London, much of the tidal Thames is altered by flood defences and engineered riverbanks. Management of such flood defences could provide an opportunity to restore or enhance these habitats, and/or improve access, demonstrated in the Estuary Edges project[38].

Key species

A 'Tidal Thames margins' species assemblage has been identified, including primarily flowering plants, along with common seal and the German hairy snail (the full assemblage is set out in **Annex 1**).

Relevant measures

- M5 – People management
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
- M16 – Watercourse restoration
  - S28 – Natural flood management
- M19 – Greening structures
- M22 – Floodplain and intertidal management
  - S37 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly managing flood risk and improving water quality.
- Primary co-benefit: Thriving and prosperous communities and active and healthy places, particularly access to nature.

21. Fen, marsh and swamp

Priority: Restore, expand, create, and connect fen, marsh, and swamp, including peatland.

Explanation: This priority refers to wetland habitats that are vegetated (not open water) and particularly those that are largely fed by groundwater. London has a few remnant areas of peat, mostly in valley mires and fens, which support an array of species. Find out more about London's peat bogs in London Wildlife Trust's 2015 report, 'Peaty Finders'[39].

Key species

A 'fen, marsh and swamp' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): grass snake, bog pimpernel, early marsh-orchid, and pochard.

Relevant measures

- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
- M16 – Watercourse restoration

- M18 – Standing water restoration / management
  - S31 – Pond and lake restoration / management
  - S32 – Reedbed restoration / management
- M21 – Nesting sites
  - S36 – Nest banks for bank-nesting birds
- M22 – Floodplain and intertidal management
  - S37 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefits: Improved water management, particularly managing flood risk and improving water quality, and resilient and climate positive places.
- Primary co-benefit: Thriving and prosperous communities.

22. Reedbeds

Priority: Restore, expand, create, and connect reedbeds. This will help meet the London Environment Strategy target of creating an additional 30 ha of reedbeds by 2050.

Explanation: Reedbeds can occur or be created in most wetland habitats, and therefore this priority overlaps with many other biodiversity priorities.

Key species

A 'reedbed' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): bearded tit, European eel, harvest mouse, and water vole.

Relevant measures

- S1 – Invasive species management
  - American mink eradication to further water vole conservation effort (see the LISI Species of Concern list for other species considered to be of greatest concern in London)
- M1 – Exclusion measures
- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M16 – Watercourse restoration
- M18 – Standing water restoration / management
  - S31 – Pond and lake restoration / management
  - S32 – Reedbed restoration / management
- M22 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefit: Improved water management, particularly improving water quality.
- Primary co-benefit: Thriving and prosperous communities, especially

supporting green jobs and raw materials.

Grassland, heathland, scrub and farmland priorities

23. Acid grassland

Priority: Restore, expand, create, and connect acid grassland. This will help meet the London Environment Strategy target of an additional 250 ha of flower-rich grassland by 2050.

Explanation: Acid grassland is grassland that occurs on soils with a low pH (that is, acidic soils). Acid grassland is not as species rich as other grassland, especially in London. However, these conditions favour certain plant communities, differentiating them from other grasslands. These conditions favour certain plant communities, differentiating them from other grasslands[40].

Key species

An 'acid grassland' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): Small copper butterfly and small heath butterfly.

Relevant measures

- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M4 – Import suitable substrate for habitat creation
- M5 – People management
- M6 – Tree and woodland management
- M11 – Scrub management
- M13 – Bare ground management / creation
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management
  - S24 – Conservation grazing
  - S25 – Grass and heathland cut and collect management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places, particularly access to nature.

24. Heathland

Priority: Restore, expand, create, and connect heathland.

Explanation: Lowland heath is found on low-fertility soils, and is characterised by heather, gorse, and grasses. It is a semi-natural habitat that requires grazing or other intervention to stop it developing into woodland[41]. Both wet and dry heath occur in London. Acid grassland is often found as part of heathland, so this priority should be considered alongside 'acid grassland'.

Key species

A 'heathland' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): heath spotted orchid, slow worm, common lizard, small heath butterfly, and small copper butterfly.

Relevant measures

- M4 – Import suitable substrate for habitat creation
- M6 – Tree and woodland management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management
  - S24 – Conservation grazing
  - S25 – Grass and heathland cut and collect management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places, particularly access to nature.

25. Chalk grassland

Priority: Restore, expand, create, and connect calcareous grassland. This will help meet the London Environment Strategy target of an additional 250 ha of flower-rich grassland by 2050.

Explanation: Chalk grassland, also known as calcareous grassland, is grassland situated in areas of chalk or limestone. These conditions favour certain plant communities, differentiating them from other grasslands[42]. Variation within chalk grassland is important to maximise biodiversity, including scrub mosaic, bare ground and varied vegetation structure (for example, different plant heights). The Big Chalk partnership helps to coordinate nature recovery action for chalk habitat, in London and across southern England[43].

Key species

A 'chalk grassland' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): shrill carder bee, brown carder bee and various butterfly species.

Relevant measures

- M1 – Exclusion measures
- M2 – Wildlife connectivity
  - S4 – Wildlife corridors installed on / under / over structures
- M4 – Import suitable substrate for habitat creation

- M5 – People management
- M6 – Tree and woodland management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management
  - S24 – Conservation grazing
  - S25 – Grass and heathland cut and collect management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places, particularly access to nature.

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26. Lowland meadow

Priority: Restore, expand, create, and connect lowland meadows. This will help meet the London Environment Strategy target of an additional 250 ha of flower-rich grassland by 2050.

Explanation: The LNRS takes a broad view of lowland meadows, following the UK BAP description[44]. This includes most unimproved, neutral grassland, and flower-rich areas of golf courses, parks, churchyards, road verges and other green spaces.

Key species

A 'lowland meadow' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): butterflies (specifically wall brown, small and Essex skipper), skylark, and harvest mouse.

Relevant measures

- M1 – Exclusion measures
- M2 – Wildlife connectivity

  - S4 – Wildlife corridors installed on / under / over structures
- M5 – People management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M13 – Bare ground management / creation
  - S22 – Bare ground creation / clearance, chalk scrapes
- M14 – Grassland and heathland creation
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
  - S26 – Grassland and heathland cutting regimes suitable for ground nesting birds
- M21 – Nesting sites

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly carbon sequestration and storage.
- Primary co-benefit: Active and healthy places, particularly improving physical and mental health and access to nature.

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27. Scrub

Priority: Restore, expand, create, and connect scrub habitat.

Explanation: Scrub refers to habitats dominated by shrubs and smaller trees, but often also includes open areas of grassland. It occurs when woody plants begin to take over a grassland but requires management to prevent it turning into woodland.

Key species

A 'scrub' species assemblage has been identified, including the following (the full assemblage is in **Annex 1**): hedgehog, hazel dormouse, and mistle thrush.

Relevant measures

- M3 – Wildlife shelter creation
- M5 – People management
- M6 – Tree and woodland management
- M10 – Hedgerow management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M12 – Scrub creation
  - S20 – Scrub – natural regeneration

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places, particularly carbon storage and sequestration.
- Primary co-benefit: Active and healthy places, particularly access to nature.

28. Arable and horticultural

Priority: Restore farmland and field edges for biodiversity, where appropriate.

Explanation: This priority focuses on commercial farmland, particularly farmland managed for food-growing, rather than for livestock. Other food growing spaces, such as community gardens, allotments, and city farms are included under the 'urban mosaic' priority. Botanic gardens and formal gardens are included under the 'parks and open spaces' priority.

Key species

An 'arable' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): linnet, skylark, wild pansy and yellowhammer.

Relevant measures

- M3 – Wildlife shelter creation
- M5 – People management
  - S5 – Path / entrance realignment / creation and interpretation / signage (for skylark)
- M9 – Hedgerow creation
- M10 – Hedgerow management
  - S18 – Hedgerow management
- M11 – Scrub management
- M12 – Scrub creation
  - S20 – Scrub – natural regeneration
- M13 – Bare ground management / creation
- M15 – Grassland and heathland management
  - S25 – Grass and heathland cut and collect management
  - S26 – Grassland and heathland cutting regimes suitable for ground nesting birds
  - S27 – Conservation headland creation / management
- M16 – Watercourse restoration
- M17 – Standing water creation
- M18 – Standing water restoration / management
  - S31 – Pond and lake restoration / management
- M22 – Floodplain and intertidal management
  - S37 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.

- Primary co-benefit: Thriving and prosperous communities.

Micro-habitat priorities

These priorities relate to features within wider habitats, and that occur as part of habitat mosaics. Therefore, these priorities overlap with many other biodiversity priorities and are not mapped separately.

29. Deadwood (not mapped)

Priority: Increase deadwood availability, including standing deadwood.

Explanation: Deadwood can occur or be created in many different habitat types and land uses, including wooded habitats, and public and private green spaces. This may include standing deadwood, where the dead tree is still standing, a fallen tree, decaying roots and stumps, or decaying wood within part of a living tree (usually the middle, 'heartwood')[45]. Deadwood can also be used within watercourses to manage water flow and flooding, for example through use in leaky dams. It is a dynamic habitat as the wood decays and provides vital habitat and food for specialist fungi and invertebrates.

Key species

A 'deadwood' species assemblage has been identified, including the following (the full assemblage is set out in **Annex 1**): Stag beetle, a variety of fungi and deadwood specialist beetles.

Relevant measures

- M1 – Exclusion measures
- M3 – Wildlife shelter creation
- M5 – People management
- M6 – Tree and woodland management
  - S6 – Creation of standing deadwood
  - S7 – Creation of deadwood / woodchip piles
  - S8 – Veteranisation works
  - S12 – Tree thinning
- M10 – Hedgerow management
- M11 – Scrub management
- M21 – Nesting sites

Wider benefits

- Primary wider environmental benefit: Improved water management (where deadwood is within water courses), along with resilient and climate positive places, especially carbon sequestration and storage.
- Primary co-benefit: Active and healthy places, particularly access to nature.

30. Sand habitat (not mapped)

Priority: Restore, expand, create, and connect sand habitats.

Explanation: Areas of bare sand, including disused golf course bunkers and post-industrial areas, provide nesting habitat for important species, including some bee and wasp species and other invertebrates.

Surrounding habitats should provide food plants for bees. As such, this priority sits particularly well alongside the 'lowland meadow' priority.

Key species

A 'sand habitat' species assemblage has been identified, including several bee species, other invertebrates and flowering plants (the full assemblage is set out in **Annex 1**).

Relevant measures

- M3 – Wildlife shelter creation
- M5 – People management
- M11 – Scrub management
  - S19 – Scrub cutting / removal
- M13 – Bare ground management / creation
  - S22 – Bare ground creation/ clearance, chalk scrapes
- M21 – Nesting sites
- M22 – Floodplain and intertidal management
  - S37 – Floodplain and intertidal management

Wider benefits

- Primary wider environmental benefit: Resilient and climate positive places.
- Primary co-benefit: Active and healthy places.

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3.4 Enabling actions

In line with LNRS regulations and guidance, the priorities and measures listed above are focused on habitat creation and improvement. However, the LNRS engagement process identified several enabling actions. While these are outside the scope of the LNRS, they are recognised as important aspects of nature recovery that need to be implemented alongside the biodiversity priorities and measures.

Protect existing sites of value

Action: Boroughs and Natural England should continue to review and monitor sites designated for nature in their area and designate new sites where appropriate.

Explanation: The LNRS does not introduce any new designations or protect any areas of land. However, Sites of Importance for Nature Conservation (SINCs) and statutory sites in London should continue to be monitored and designated by London boroughs and by Natural England in line with existing processes. At the local level, important nature sites designated as SINCs need to be frequently monitored and reviewed, with the latest SINC surveys following Local Plan cycles. Statutory sites also require monitoring for their condition by Natural England, following regulated cycles.

For transparency it is recommended that development impacts on SINCs are consistently monitored and recorded within borough Authority Monitoring Reports.

The latest SINC criteria, as published by the GLA, should be used to guide this work, along with the online SINC resource hub[46].

Expand public education and engagement

Action: London boroughs, environmental NGOs and charities should continue and expand their good work in promoting understanding of and engagement with nature. The GLA will seek to support these initiatives as appropriate within the scope of Mayoral policy and associated funding programmes, including providing support to projects that seek to engage diverse groups with nature.

Explanation: Public education (including engaging children at an early age and community science) can help to improve people's connection to nature. It helps ensure that they benefit from the mental and physical health benefits of enjoying green and blue spaces responsibly. This includes making nature accessible and engaging for people of different backgrounds. It can change attitudes to vital habitats that are often dismissed as 'scruffy' (such as scrub). It can also alter perceptions of wildlife that may be thought of as boring or scary, such as worms and snakes. Engaging people with nature can boost the role people play in contributing to creation and management of habitats.

Clear leadership and governance

Action: The LNRS technical task and finish group was established to bring together key stakeholders to input into LNRS. The best way to deliver nature recovery is by bringing organisations together to work collaboratively. This enables them to support each other and share the latest ideas, funding, best practice, and information relevant to nature recovery. With the right mandate and enough funding from government, London could develop a long-term nature partnership for London to deliver the LNRS.

Explanation: Nature recovery often requires bringing together lots of different partners with a clear vision. The London Biodiversity Partnership was formed in 1997 to help prepare the London Biodiversity Strategy. However, it has not been in operation for over a decade. This means there has been no single body bringing together the various stakeholders, technical forums and landscape partnerships operating across London. The need to restore this has been identified by many stakeholders to support the strategic delivery of nature recovery.

One way to widen group membership would be involving and engaging with developers, design teams, and landowners around how best to incorporate nature on sites.

Improved funding opportunities

Action: Funding streams for nature (including the Mayor of London's funding programmes and future central government provision) should consider how to support the LNRS and maintain long-term nature recovery gains. This could include funding for research and monitoring, as well as funding for action.

Explanation: Nature recovery costs money, for materials and equipment, as well as people's time and expertise. The continuing maintenance and management funding required to manage nature well is significant. This has been a key issue in the decline of nature in London.

Multiple sources of funding exist for nature recovery work. For example, local government funding (including GLA funding programmes) and national or philanthropic funds, as well as smaller scale or more local funding sources.

Central government policies including biodiversity net gain (BNG), and programmes such as countryside stewardship and the Environmental Land Management Schemes (ELMS), offer scope for additional funding, where applicable.

During LNRS engagement, many people stated the greatest funding gap was in securing continuous funding for management and maintenance.

Expand research and monitoring

Action: There is a need for improved monitoring and data for London's biodiversity. This should include collaboration with GiGL and wildlife recording groups. This can be structured following best practice from other C40 cities[47], such as the Singapore Index[48] and Los Angeles Biodiversity Index[49]. There is also a need for good quality, accessible and regularly updated mapping, to track action for biodiversity across London. Monitoring soil health will also help indicate the impact of nature recovery on soils.

Biodiversity monitoring and the use and sharing of data (using GiGL's data standards) should be a requirement of funding. Boroughs should use (and require developers to use) GiGL's data search services. They should also share habitat and species records generated from surveys in appropriate formats.

Research needs could include understanding more about the populations of and threats to those species that were excluded from the LNRS shortlist due to lack of data. Research to better understand pathways to establishment of invasive species, particularly in an urban setting, would also be valuable. Such research may be at a scale beyond London and could be led by academic and industry institutions.

Explanation: Monitoring helps us to understand what nature already exists, what nature recovery actions work best, and whether recovery actions are having the expected impact. The LNRS is based on the best available data. However, there are limited up-to-date, baseline biodiversity data for the whole of London. Some species (such as water shrew) were excluded from the LNRS species shortlist, because little is known about their status, the pressures they face and therefore how to support their recovery. It does not mean that such species do not require attention, but that they need investment in research, something outside LNRS scope.

LNRS consultees mentioned the challenge of identifying suitable locations for new habitat many times. In particular, locations of roosts and nesting sites were highlighted as a knowledge gap.

London's Local Environment Records Centre, GiGL, is the key repository for all London's wildlife data. This includes recent habitat suitability modelling[50]. It is used by decision makers for management and planning development matters. A 2016 report commissioned by the GLA, found that 18 per cent of planning applications in London should have used a GiGL data search to inform decision making, yet only 1 per cent had used the service[51]. Data from April 2023 to March 2024 suggests only small increase to 1.57% of planning applications being supported by a data search[52]. The data generated from surveys by ecology reports are not always submitted back to the records centre.

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Monitoring helps us to understand what nature already exists, what nature recovery actions work best, and whether recovery actions are having the expected impact.

Local Habitat Map

The Local Habitat Map is available at: London's LNRS Local Habitat Map. It is a key part of the LNRS and should be viewed alongside this document.

4.1 Information on the Local Habitat Map

The map has three main 'layers': Areas of Particular Importance for Biodiversity (APIBs); potential measures; and Areas that Could Become of Particular Importance (ACBs). These can be switched on or off. Each are described below.

Areas of Particular Importance for Biodiversity (APIBs)

This layer shows existing nature sites that already benefit from both statutory protection via national legislation and non-statutory protection via the local planning process. This means activities that would damage their important habitats or species must not happen without appropriate consideration, permission, and mitigation.

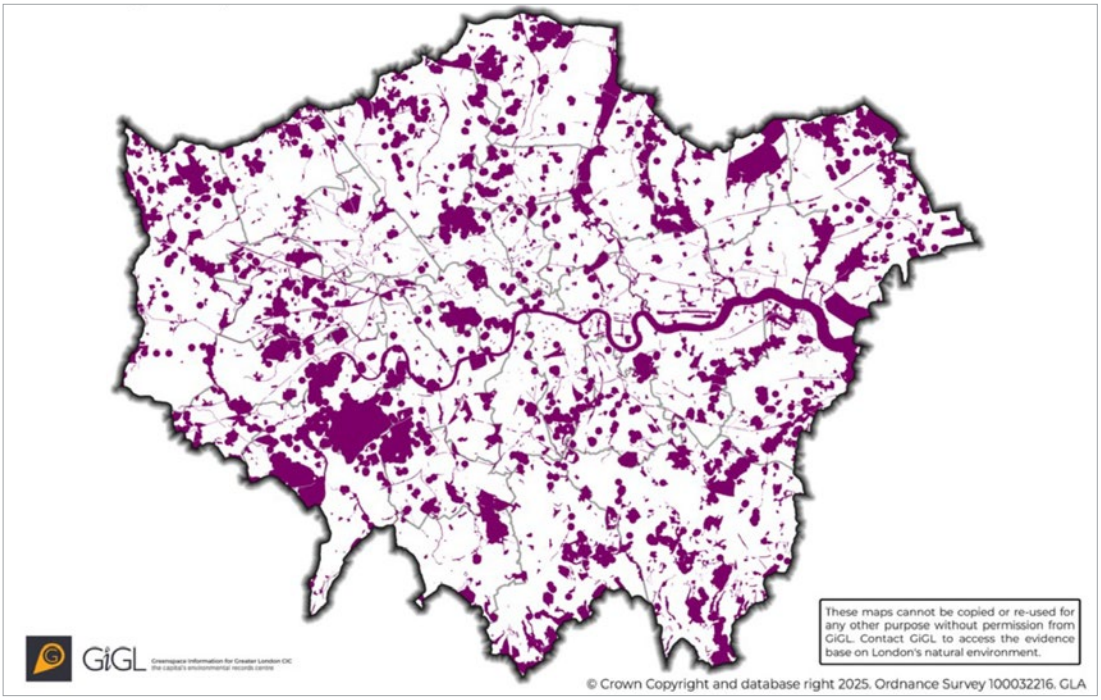
This includes sites designated for nature conservation at both a national and local level, as well as irreplaceable habitats. **Annex 2** has more details on these designations, which are listed below:

- Special Areas of Conservation (SACs)
- Special Protection Areas (SPAs)
- Ramsar sites

Figure 4.1: Areas of Particular Importance for Biodiversity

Areas of Particular Importance for Biodiversity, Greater London

Produced by Greenspace Information for Greater London CIC, Dec 2025



- Sites of Special Scientific Interest (SSSIs)
- National Nature Reserves (NNRs)
- Local Nature Reserves (LNRs)
- Local wildlife sites – in London, called Sites of Importance for Nature Conservation (SINCs) and proposed SINCs (pSINCs)
- Irreplaceable habitats, as set out in The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024. For London, this is mainly ancient woodland. Note that ancient and veteran trees are included as point data (dots). This reflects the data as held by Woodland Trust. Find out more about ancient and veteran trees in the Woodland Trust's **Ancient Tree Inventory**.

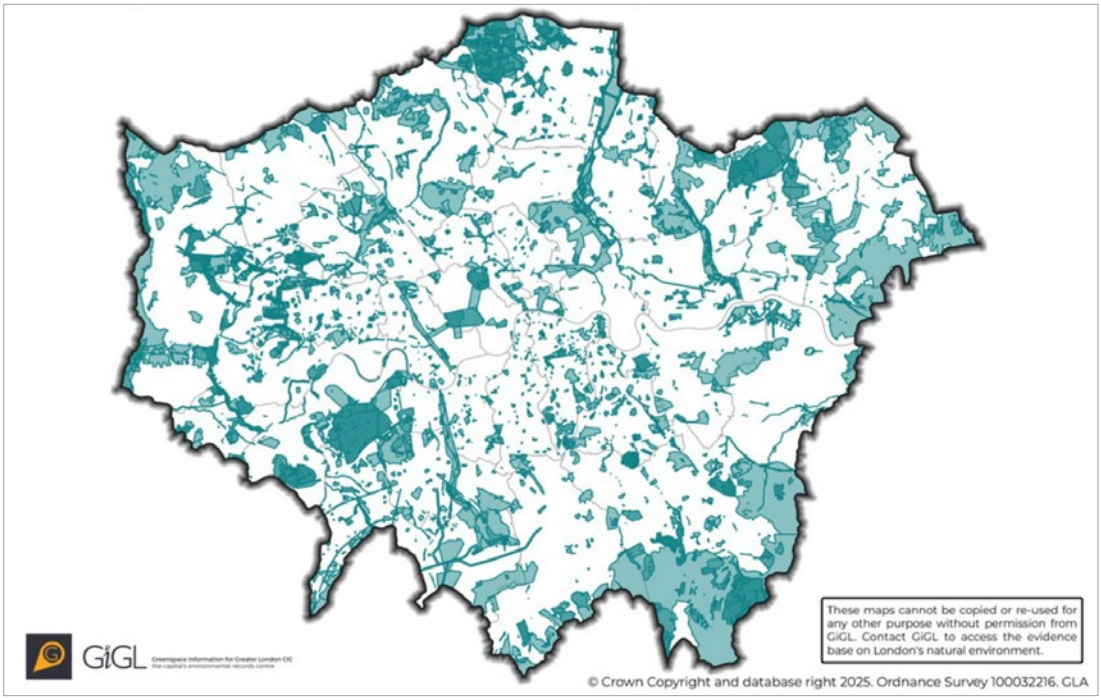
Some areas are covered by more than one of the designations listed above. The Local Habitat Map APIB layer does not include details of individual site designations. Some of this data is publicly available. However, details of SINC and pSINC sites can only be obtained from GiGL.

Potential measure locations

Figure 4.2: Areas of Particular Importance for Biodiversity

Potential Measure Locations, Greater London

Produced by Greenspace Information for Greater London CIC, Dec 2025



This layer shows areas identified for LNRS measures (actions for nature). As set out in the Method Statement, potential measure locations were gathered from partners, technical experts and Londoners. They have been screened for their suitability and reviewed by local authorities. However, they are not specifically endorsed by local authorities or any other body.

Some areas may be suitable for multiple priorities and measures – the darker the shading of an area, the more priorities it could contribute to. Where the map shows opportunities for multiple biodiversity priorities on one site, land managers should deliver a combination of relevant habitats on site. While it is not necessary to contribute to every priority associated with the site, it is preferable to deliver a mosaic of habitats there. The 'explanation' section for each priority in **Chapter 3** highlights where and how different priorities may complement each other.

Note that where potential measure locations include built up areas, it has been assumed that all existing buildings will remain, but habitat may be created on those buildings (such as green roofs) or around those buildings.

Potential measure locations are largely based on suggestions put forward from interested parties, through LNRS engagement activities (see the Method Statement for further details). While the potential measure locations are focus areas for nature recovery, they are not an exhaustive list of areas where nature recovery can or should take place. The GLA encourages delivery of the biodiversity priorities in other appropriate locations, even if they are not mapped. Other available resources can help decision-making on which biodiversity priorities could be appropriate in areas that are not highlighted as potential measure locations. For example, London's 'living landscape' areas could provide a steer on the best options for nature recovery[53].

Biodiversity net gain (BNG) is a national requirement for new development to deliver a measurable improvement in nature. The LNRS supports a strategic approach to delivery of BNG because it identifies areas where action could contribute to nature recovery in London. The Defra metric, which developers must use to calculate BNG requirements, includes an incentive to deliver BNG in areas of 'strategic significance'. Areas of strategic significance for BNG are areas falling within the potential measures layer, as shown on the Local Habitat Map, that are outside of a nationally designated site. It also applies to potential measure locations within nationally designated sites if they do not relate to the reasons for designation. This means that nature improvements within these locations are eligible for a 15 per cent biodiversity unit uplift when used for BNG, **provided they help to deliver the biodiversity priority / priorities identified in that area and do not relate to the reason for designation, on nationally designated sites**.

“

The LNRS supports a strategic approach to delivery of BNG because it identifies areas where action could contribute to nature recovery in London.

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Further guidance is provided in the **Statutory BNG metric user guide**[54].

Different scales of potential measure locations

For this layer of the map, each location has been assigned to one of the following three scales:

- **Multi-site** – tthese potential measure locations cover a wide area, bigger than an individual site, or follow a linear feature. These often 'wash over' a large area, including buildings and green / blue space. Generally, multi-site measure locations are expected to come forward as a series of smaller projects, which each contribute to the relevant priority in an area.
- **Site** – these potential measure locations relate to the whole area of a particular site or land parcel. Generally, these measures are expected to come forward on only part of the site, as part of a site-level plan. However, measures associated with one priority may be appropriate across the site, for example, if the whole site is woodland.
- **Sub-site** – these potential measure locations relate to a smaller area within a site. This indicates specific action that should be taken on that particular part of the site.

These scales are indicative only. They can be used to identify where more specific actions are specified within a broader site or area. For example, a potential measure location might highlight a particular park for improvement under the 'parks and open spaces' priority. However, within the park, there could be a sub-site opportunity for a pond, under the 'ponds and lakes' priority. This allows for 'nesting' of potential measures, where an area for more specific action has been identified within a broader opportunity area.

Areas That Could Become of Particular Importance (ACBs)

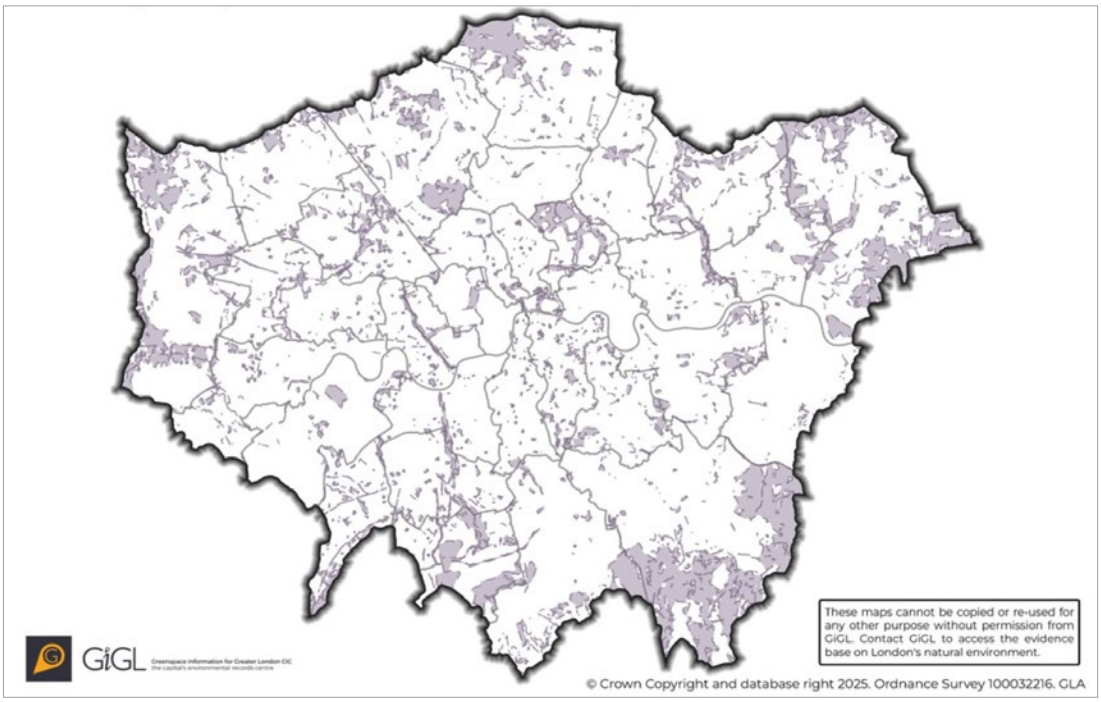
This layer shows all the areas where action for nature could be prioritised that currently lie outside existing designated sites. It has been produced by merging all the potential measure locations together and removing any areas that are within existing APIBs. As such, it shows parts of the 'Potential Measure Locations' that fall outside Areas of Particular Importance for Biodiversity. Being identified as an ACB is not a formal designation. It therefore does not introduce any protection to a site or prevent any alternative use of the site. Individual projects should follow existing planning and consent processes.

As for potential measure locations, where ACBs include built up areas it has been assumed that all existing buildings will remain, but habitat may be created on those buildings (such as green roofs) or around those buildings.

Figure 4.3: Areas that Could Become of Particular Importance

Areas That Could Become of Particular Importance, Greater London

Produced by Greenspace Information for Greater London CIC, Dec 2025



4.2 Limitations of the Local Habitat Map

Once the LNRS is finalised and published it will not be updated until the LNRS is reviewed, unless express permission is granted by the Secretary of State for Environment, Food and Rural Affairs. This means that the Local Habitat Map will not be updated with any changes to Areas of Particular Importance in this period. The most up to date information on designated nature sites is available from GiGL. The potential measures and Areas that Could Become of Particular Importance will remain unchanged until the LNRS is updated.

APIBs

GiGL undertook extensive liaison with borough officers to ensure the accuracy of the APIBs shown on the Local Habitat Map. However, it is important to note that the Local Habitat Map will only be updated when the LNRS is reviewed. Therefore, it will not show any changes in evidence relating to designated sites, habitats, or species between LNRS publication and review. GiGL will continue to manage and update data and information on species, habitats, and designated sites as per its core responsibility. GiGL will provide access to their datasets via their services. This will ensure that their stakeholders' activities and decisions are based on the most up to date and reliable data available.

Potential Measures

Potential measure locations were largely informed by stakeholder suggestions through a series of technical workshops and public inputs to an online interactive map. These were verified for their ecological suitability and incorporate findings of other projects to identify areas for nature recovery in London. This approach ensures that only opportunities with a level of support are included on the Local Habitat Map. However, it should be noted that there may be further opportunities that were not put forward, and many opportunities for implementing the unmapped priorities. As such, nature recovery activities should not be restricted to just these areas.

In addition, while verification of potential measure locations used the best available data, it was limited by the data available. For example, habitat suitability modelling does not exist for all habitats included in the biodiversity priorities.

Please see the Method Statement for more information on how the potential measure locations were identified.

Next steps

5.1 Delivery of the LNRS

Integrating the LNRS with other plans and strategies

As set out in **Chapter 3**, the LNRS will help to meet the following London Environment Strategy targets by 2050:

- 200 ha species-rich woodland created
- 250 ha flower-rich grassland created
- 40 km rivers and streams restored
- 30 ha reedbeds created

It will also help to achieve the goals in the Clean and Healthy Waterways Plan.

The London Green Infrastructure Framework (LGIF) provides spatial evidence to target and prioritise green infrastructure (green and blue spaces and features) to meet the social, environmental, and economic needs of Londoners. As set out in **Chapter 1**, the LNRS forms a core strategic objective of the LGIF, as its nature recovery layer.

It is a legal requirement to 'have regard' to the LNRS in planning. The 'Natural environment' section of the Planning Practice Guidance sets out information on how LNRSs should be considered in planning[55]. The LNRS and LGIF will provide an evidence base to support the Mayor's ambitions to deliver for housing and nature effectively. The LNRS should also inform other local plans and strategies, such as green infrastructure strategies, climate action plans, catchment plans and Thames-wide strategies.

Delivering nature recovery

This LNRS sets the direction for nature recovery in London at a strategic level. Further detail will be required at a site-level to develop nature recovery projects before action on the ground can happen. This includes identifying suitable measures for a site, identifying potential constraints and consents required, and costing the project to inform funding needs and applications. Projects should seek to deliver nature recovery in the most sustainable way possible. This could include re-using any materials (such as use of wood from felled trees / branches on site), minimising transport needs to and from the site and seeking sustainable alternatives to single-use plastic pots and tree guards.

The LNRS is a tool that will help people identify and shape projects, and could support applications for funding. In order to ensure co-ordinated action at a local level, the GLA encourages organisations, including local authorities, to use the LNRS to either update their existing biodiversity plans, or prepare new Nature Recovery Action Plans. Any organisation or person who owns or manages land in London can help to deliver the LNRS. For many, this includes:

- using the LNRS to identify opportunities to deliver biodiversity priorities in a particular area and what measures should be put in place to deliver them. This can then be integrated into land management plans and development site masterplans.

- using the LNRS to focus delivery of biodiversity units for (BNG) in potential measure locations.
- integrate the LNRS into Local Plans, Neighbourhood Plans, and other local decision-making documents. Further information on integrating the LNRS with local planning can be found in the Planning Practice Guidance[56].
- local authorities are encouraged to use the LNRS to transition from Biodiversity Action Plans to spatial Nature Recovery Action Plans. This includes setting out how best to deliver biodiversity priorities and measures in your borough.
- using the LGIF to identify which 'strategic objectives and inequalities' are highest in the location of interest. Projects can then be designed to maximise wider benefits alongside nature recovery. This can also be used to support bids for funds that are targeted at the wider benefits of nature recovery.
- using the LNRS as evidence in support of funding applications for nature recovery projects.
- using the LNRS to prioritise where to allocate funding and other support for nature recovery.
- aligning organisational, departmental, and local priorities, plans and strategies with the LNRS, and integrating biodiversity priorities and measures into policy.
- supporting and participating in local partnerships for nature.

Note that while London boroughs fed into creation of the LNRS in their role as 'supporting authorities', there is no obligation on them or any other party to take certain actions. Approaches to delivery of the LNRS in London will be dependent on support from the UK Government and will need to be collaborative. More work is needed to define an approach in this area. This will be done by the GLA in liaison with Defra and other partners as appropriate.

Monitoring and future updates

The LNRS Regulations state that the LNRS must be reviewed and updated every three to 10 years. The government will advise responsible authorities when to update the LNRS within this timeframe. The review will consider whether the biodiversity priorities are still appropriate for London and how best to address any new trends in habitats and species. It will also review the Local Habitat Map. This will include any changes to APIBs and a review of whether there should be any new potential measure locations added. The updated Local Habitat Map will also need to map areas where action for nature recovery has been taken (Step 2 in **Figure 1.1**).

Monitoring is important to inform any LNRS review as it will help us to understand:

- Where and what action has taken place
- Whether nature is recovering in London

- Whether the measures identified in this LNRS are effective at delivering the biodiversity priorities
- Whether there are any unintended consequences of the LNRS. For example, an unintended consequence could be that there is a large increase in one or two habitats, rather than a mix of habitats.

The GLA will seek to work with partners to collate information on nature recovery projects planned and undertaken in London. This will help with Step 2 of the next iteration of the LNRS. A London-wide monitoring system would help us to understand more general trends in biodiversity, as discussed in **Section 3.4**. All funding and delivery partners should keep clear records of action taken for nature recovery and make this available to inform future LNRS updates. All relevant data, particularly records of areas of new habitat creation, should be shared with GiGL to ensure data for London is up to date.

5.2 The Mayor of London's role in delivering the LNRS

The role of the Mayor of London (and other responsible authorities) in the delivery, monitoring and future update of the LNRS is to be confirmed. Discussion is currently taking place with Defra around requirements and support for this.

The possible future roles for responsible authorities proposed by Defra are described below:

- Lead and convene a delivery partnership
- Embed LNRS into local decision making
- Identify strategic projects and facilitate project development
- Monitor and report on delivery of LNRS priorities.

© Thames 21, Riverfly monitoring

Appendix A: Glossary

Abbreviations

ACB	Area that could become of particular importance
ALGG	All London Green Grid
APIB	Area of particular importance for biodiversity
BAP	Biodiversity Action Plan
BNG	Biodiversity net gain
Defra	Department for Environment, Food and Rural Affairs
GI	Green infrastructure
GIGL	Greenspace Information for Greater London CIC
GLA	Greater London Authority
LGIF	London Green Infrastructure Framework
LNRS	Local Nature Recovery Strategy
LWT	London Wildlife Trust
NGO	Non-governmental organisation
pSINC	Proposed Site of Importance for Nature Conservation
RIPL	River Partnerships in London
SAC	Special Area of Conservation
SINC	Site of Importance for Nature Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SUDS	Sustainable drainage systems
UGF	Urban Greening Factor
ZSL	Zoological Society of London

Definitions

A

Area that could become of particular importance (ACBs)

Priority opportunity areas for nature recovery identified in the LNRS.

All London Green Grid (ALGG)

A policy framework set out in Supplementary Planning Guidance to the previous London Plan. It promoted the design and delivery of green infrastructure across London.

Areas of particular importance for biodiversity (APIBs)

Areas with existing protection for biodiversity.

B

Biodiversity

This refers to the variety of plants and animals and other living things in a particular area or region. It encompasses habitat diversity, species diversity and genetic diversity.

Biodiversity net gain (BNG)

Biodiversity net gain is a way of creating and improving natural habitats. BNG makes sure development has a measurably positive impact ('net gain') on biodiversity, compared to what was there before development.

D

Department for Environment, Food and Rural Affairs (Defra)

Defra is a government department responsible for improving and protecting the environment and supporting food, farming, and fishing industries.

G

Green (and blue) infrastructure (GI)

A network of green spaces – and features such as street trees, green roofs, and blue spaces – that is planned, designed, and managed to deliver a range of benefits. These include mitigating flooding, cooling the urban environment, and enhancing biodiversity and ecological resilience, as well as providing more attractive places for people.

Greenspace Information for Greater London CIC (GiGL)

GiGL is London's environmental records centre. GiGL mobilises, curates and shares data via services that enable their stakeholders to make informed decisions about London's natural environment in policy and practice.

Greater London Authority (GLA)

The Greater London Authority is the administrative body for Greater London. It comprises a directly elected Mayor and directly elected London Assembly.

H

Habitat

The physical environment required to sustain animals, plants, and other species. It includes air, water, and soil, as well as other living things.

L

London Green Infrastructure Framework (LGIF)

The London Green Infrastructure Framework will provide London's spatial evidence to target and prioritise new, improved, and protected green infrastructure. It will comprise spatial mapping and data, providing a comprehensive evidence base to enable decision makers to identify area of highest need for GI, and a framework document which will set a strategic vision and spatial priorities for London's GI.

Local Habitat Map

A Local Habitat Map is one of two parts of an LNRS (the other is called a Statement of Biodiversity Priorities). It shows areas that are already protected for nature and areas where nature recovery should be prioritised.

Local Nature Recovery Strategy (LNRS)

A Local Nature Recovery Strategy is a spatial tool for nature. It sets out which aspects of nature need most attention, what action needs to be taken to improve nature and where that action should be focused. This Statement of Biodiversity Priorities, along with the Local Habitat Map, constitutes London's LNRS.

Measure

Specific practical actions to achieve the biodiversity priorities.

Biodiversity priority

The end results that the strategy is seeking to achieve.

N

Non-governmental organisation (NGO)

An independent organisation that operated outside of government. Generally, these organisations exist to address a social, environmental or political issue.

P

Proposed Site of Importance for Nature Conservation (pSINC)

pSINCs are sites that have been assessed and proposed for designation and have reached public consultation (Local Plan Regulation 18).

R

Ramsar site

An internationally important wetland site.

Rewilding

'Rewilding' is now widely used to describe a spectrum of nature conservation projects, initiatives, and activities at every scale from wildlife gardening through to ecological restoration at the landscape

scale. However, 'rewilding' in this LNRS refers to the concept of allowing natural processes to operate as best as possible to restore natural ecosystems and assist in nature's recovery.

River Partnerships in London (RiPL)

A group consisting of all organisations who act as hosts or co-hosts for the London river catchments and other key partners in London.

S

Special Area of Conservation (SAC)

An internationally important site for nature, designated for the habitats and/or species present.

Site of Importance for Nature Conservation (SINC)

Areas of land chosen to represent the best wildlife habitats in London and areas of land where people can experience nature close to where they live and work. Sites are classified into Sites of Metropolitan, Borough and Local Importance depending on their relative value. Unlike SSSIs, SINCs are not legally protected, but their value must be considered in any land use planning decision.

Special Protection Area (SPA)

An internationally important site for nature, designated for populations or rare and vulnerable birds.

Species

A species is a type of living thing with particular characteristics and genetic make-up – for example, a blackbird is a species of bird.

Site of Special Scientific Interest (SSSI)

Areas of land with ecological or geological interest of national importance. They are designated by Natural England under the Wildlife and Countryside Act (1981 as amended) and have legal protection.

Statement of Biodiversity Priorities

A Statement of Biodiversity Priorities is one of two parts of an LNRS (the other is called a Local Habitat Map). It is a document setting out a description of the strategy area, as well as priorities and measures for nature recovery. This document is the Statement of Biodiversity Priorities for the London LNRS.

Sustainable drainage systems (SuDS)

Measures and techniques to help capture, use, delay the dispersal of, discharge or absorb surface water.

U

Urban Greening Factor (UGF)

A land use planning tool to help determine the amount of greening required in new developments.

Urban forest

A term to describe all the trees (woodlands, street trees and trees in parks, gardens, and other green spaces) within an urban area.

V

Veteranisation

Artificial ageing of younger trees to give them some characteristics of older (veteran) trees. This could include creating holes and hollows in the trunk or branches, cutting or breaking branches, and stripping some bark. These imitate natural processes, like woodpecker holes, storm damage and animal damage.

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Appendix B: List of potential measures

The table below sets out the measures referred to in this LNRS. Primary measures are those that relate to broader measures for the benefit of a range of species and the habitat as a whole. The 'Species measures' column sets out measures that have been identified as targeted measures to support one or more species on the shortlist (see **Annex 1**). Species measures have been presented in the same row as the corresponding primary measure, where relevant.

This demonstrates that the species-specific measure is key to supporting one of the shortlisted species or assemblages. The broader measure may not sufficiently support shortlisted species if it is not implemented in a way that encompasses the species measure. The London Green Infrastructure Framework[57] can help to identify where measures can bring additional benefits to people.

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M1 – Exclusion measures	Install protective measures, such as fencing, hedging, and ditches, to keep recovery areas safe so positive restoration work can succeed. This may be needed to limit disturbance in sensitive areas or provide a buffer from other activities. Exclusion measures may also be needed to control the movement of invasive species or other ecological pressures.	S2 – Fencing for protection of key species and re-introduction enclosures
M2 – Wildlife connectivity	Link habitats to reduce fragmentation and isolation. On land this could include wildlife crossings[58], tunnels[59], or gaps in fences or hedges. In watercourses, this could include weir removal, and fish and eel passes.[60] [61] [62]	S3 – Removal or mitigation of barriers to fish passage (such as weirs) S4 – Wildlife corridors installed on / under / over structures

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M3 – Wildlife shelter creation	Provide safe, sheltered places where animals can rest, breed, or overwinter. This may include adding or enhancing features like log or rock piles or other structures that give wildlife protection from predators, weather, and disturbance.	N/A
M4 – Import suitable substrate for habitat creation	Bring in suitable soils, gravels, sands, or organic materials to reshape or restore areas where natural substrates are degraded, absent, or contaminated. This can support the establishment of priority habitats (such as wetlands, species-rich grasslands, or heathlands) by providing the physical foundation needed for native vegetation, invertebrates, and soil communities to develop.	N/A
M5 – People management	Enable people to use / access sites to ensure they benefit both people and nature. This could include adjusting how visitors access sites, signage, paths, or activities to reduce pressure on sensitive habitats and species while still allowing people to enjoy spaces responsibly. Involving local communities will help ensure the success of this measure.	S5 – Path / entrance realignment / creation and interpretation / signage
M6 – Tree and woodland management	Bring trees and woodlands of all types into active management.[63] [64] This includes applying appropriate management practices, such as coppicing, pollarding, and selective felling, to increase structural diversity and achieving suitable levels of shading and openness. Deadwood creation, veteranisation (artificial ageing), ride and glade creation, flood and drought mitigation may also be suitable. Achieving good ecological condition in woodland will also require an understanding of the impact of squirrels and deer.	S6 – Creation of standing deadwood S7 – Creation of deadwood / woodchip piles S8 – Veteranisation works S9 – Woodland ride / woodland edge restoration / creation S10 – Woodland glade restoration / creation S11 – Coppicing S12 – Tree thinning S13 – Orchard conservation management

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M7 – Woodland creation	Create new diverse woodlands through planting or natural regeneration with consideration of suitable tree species selection as appropriate to site conditions.[65] Consideration should be given to future climate conditions and species resilience. Assess impact of deer and squirrels so that appropriate measures are put in place to ensure successful woodland establishment.	S14 – Wood pasture planting S15 – Woodland – natural regeneration
M8 – Tree planting	Plant tree species that are appropriate to site conditions and landscape context. Use appropriate tree protection to ensure successful establishment. Ongoing management and maintenance (aftercare) is also important. Use available guidance, such as the London Urban Forest Plan[66] and Actions Update[67], and seek further advice as needed.	S16 – Tree planting
M9 – Hedgerow creation	Create new hedgerows through tree planting, shrub planting, and bank creation. Follow best practice guidelines when creating new hedgerows. Use mixed or native species suitable to soil and site conditions and consider the inclusion of wych-elm and disease resistant elm in species mixes. This will help support invertebrates, such as the white letter hairstreak butterfly. Use appropriate tree protection measures to ensure successful establishment.	S17 – Hedgerow creation

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M10 – Hedgerow management	Undertake appropriate hedgerow management to improve structure, enhance biodiversity, and increase their longevity. Hedgerows can be managed by coppicing or laying - using traditional styles can create distinctive landscape features. Gapping up may be required to improve the structure and density of hedges. Also manage grass buffer strips, ditches, and banks associated with hedgerows to keep them in good condition. Follow good practice when managing hedgerows, such as not cutting all hedgerows at the same time. Where possible, encourage trees to grow within a hedge to further enhance the diversity and structure.	S18 – Hedgerow Management
M11 – Scrub management	Manage the growth of scrub vegetation to maintain or restore a balance of habitats. This can involve selective removing, thinning, or shaping of scrub for wildlife shelter and diversity. Scrub management may also be needed to ensure other habitats, such as grasslands and heathlands, do not become overgrown.	S19 – Scrub cutting / removal
M12 – Scrub creation	Establish new areas of scrub vegetation to provide habitat, shelter, and food for wildlife. This can include natural regeneration or planting of shrubs.	S20 – Scrub – Natural regeneration S21 – Scrub – Block planting

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M13 – Bare ground management / creation	Manage small areas of exposed soil or rock to support species that depend on open, sparsely vegetated habitats. This typically involves preventing these patches from becoming overgrown, so they remain suitable for insects, pioneer plants, and ground-nesting wildlife.	S22 – Bare ground creation/ clearance, chalk scrapes
M14 – Grassland and heathland creation	Establish new areas of species-rich grassland and / or heathland. This can involve restoring soils, reducing nutrients, and encouraging the right vegetation so these open habitats can develop and support wildlife. It can also involve planting and seeding, for example to create wildflower meadows, and creating conservation headlands on farmland.	S23 – Meadow creation
M15 – Grassland and heathland management	Maintain grasslands and heathlands so they stay in good ecological condition. This can include conservation grazing, cutting, seeding, and mechanical scrapes to keep the open structure and species mix that wildlife depends on. It can also include controlling nutrients, for example through cut and collect.	S24 – Conservation grazing S25 – Grassland and heathland cut and collect management S26 – Grassland and heathland cutting regimes suitable for ground nesting birds S27 – Conservation headland creation / management
M16 – Watercourse restoration	Restore watercourses using appropriate approaches such as backwater creation, installing deflectors, daylighting, removal of hardstanding, artificial bank creation and, where possible, reconnection to functioning floodplains. This may also include managing shade levels (see M6 and M8), marginal planting, bank re-grading, re-naturalisation / re-meandering / re-wiggling, installing leaky dams, and other natural flood management.[68]	S28 – Natural flood management S29 – River Restoration (including in-channel enhancement) S30 – Aquatic vegetation management

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M17 – Standing water creation	Create new ponds, lakes, and scrapes to increase freshwater habitats. This provides breeding sites, feeding areas, and refuges to support amphibians, invertebrates, wetland plants, and birds.	N/A
M18 – Standing water restoration / management	Improve the ecological condition of existing ponds, lakes, and scrapes to enhance water quality, and boost habitat value for amphibians, invertebrates, birds, and aquatic plants. This could include restoring natural water levels, controlling invasive species, and removing fish. It may also include managing surrounding vegetation, such as by adding marginal planting, vegetated terraces, and managing shade levels (see M6 and M8). Management may also include removing hard banks, creating floating habitats, and use of bio-manipulation curtains. Natural pond features should be prioritised, where possible. Artificial features, such as floating habitat, should only be used where restoration to a natural habitat is not possible.	S31 – Pond and lake restoration / management S32 – Reedbed restoration / management
M19 – Greening structures	Construct and install well-designed and well-maintained green walls (on non-residential buildings/structures) and green roofs on a range of features, from buildings, bridges and flood defences, in line with building regulations and planning requirements.	S33 – Biodiverse green roof construction
M20 – Sustainable drainage systems (SuDS)	Create vegetated drainage systems, such as rain gardens, constructed wetlands, swales, and bioretention systems.[69] [70] [71]	N/A

PRIMARY MEASURE	OUTLINE DESCRIPTION	SPECIES MEASURES
M21 – Nesting sites	Provide places where birds, insects, or other wildlife can safely breed and raise young. This can include natural features like bee and butterfly banks, and sandy soil. It can also include features like nest boxes, swift bricks, bug hotels, bat bricks and tiles, artificial burrows / holts, and bee posts.	S34 – Nest boxes S35 – Swift bricks (for swift, house sparrow and house martin) S36 – Nest banks for bank-nesting birds
M22 – Floodplain and intertidal managemen	Undertake managed realignment, floodplain management, intertidal management, mudflat management, and conservation grazing to support species that rely on these habitats.[72]	S37 – Floodplain and intertidal management
Species measure only – While relevant to all habitats, the biodiversity priorities highlight where a particular invasive species needs to be managed to support one of the LNRS focus species	Undertake invasive species management methods appropriate to the target species and local circumstances. This could include physical removal of invasive species and/ or fencing to restrict movement. It could also include other suitable methods, such as biological control, providing there is confidence that this will not negatively impact other species.	S1 – Invasive species management (See the LISI Species of Concern list for the species considered to be of greatest concern in London[73])

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