City of Trees

All Our Trees

Greater Manchester's Urban Forest Plan

Contents

Summary

Trees and woodlands are part of the fabric of Greater Manchester. They provide a huge array of benefits addressing pressing issues such as poor air quality, flooding and extreme weather events – they are our urban forest. Yet they are under threat, not only from urban expansion, but the accelerating climate emergency, which represents the most significant danger to the long-term health of global ecosystems, as well as our way of life.

However, trees and woodlands could be one of the best solutions to our climate and biodiversity emergencies – multifunctional, living tools that help make our urban areas more resilient to the challenges of a rapidly changing environment.

We need a plan to get the most from our trees – now and in the future.

This plan has been written by City of Trees, the Community Forest for Greater Manchester, on behalf of the Greater Manchester Forests Partnership and adopts a canopy-based target for tree planting. The information and priorities that follow in this strategy are based on the largest empirical tree data gathering exercise of its kind in the UK.

All Our Trees – Greater Manchester's Urban Forest Plan (referred to going forward as the 'Forest Plan') will collectively guide us to improve the way in which we plant and manage our trees and direct us to where new tree planting will provide the most benefits for generations to come. The Forest Plan sets out clearly and concisely the vision for City of Trees and provides the strategic framework for the achievement of that vision.

The Forest Plan is a non-statutory plan and therefore, is not directly subject to statutory regulations governing its production or content. However, its development has been guided by current national and local government policy, and it very much compliments and respects statutory plans and policies, including the National Planning Policy Framework which provides that:

"The National Forest Strategy and Community Forest Plans are material considerations in preparing development plans and deciding planning applications"

Funding the creation and management of new woodlands is a major challenge. By highlighting the value of our trees and making links between business, landowners, local authorities, and citizens, we can work together to deliver a greener city region that is healthier, prosperous, and resilient to the challenges we face now and in the future.

“The Forest Plan’s strength lies in its collaborative spirit, which is at the heart of everything we do in Greater Manchester.”

Foreword

As Mayor, I am incredibly proud to introduce All Our Trees – Greater Manchester’s Urban Forest Plan – which is a document that stands as a testament to our commitment to a thriving city-region where everyone can live a good life. The Forest Plan is a vital part of our pioneering work with City of Trees, the Community Forest for Greater Manchester, and is a blueprint for tackling the climate and biodiversity emergencies head-on, in a way that benefits every single person who lives and works here. From street trees in residential areas, to wooded areas on the fringes of our region, everyone deserves access to the trees and woods we call Greater Manchester’s urban forest.

As a Community Forest, people are at the heart of City of Trees and the Forest Plan is a living embodiment of the new Greater Manchester Strategy – ‘Together we are Greater Manchester’. It is rooted in the belief that our economic and social progress are inextricably linked to the health of our environment. This plan will help us deliver on that promise by expanding our green infrastructure, nurturing healthier communities, creating green skills and job opportunities so people can live well, and most importantly, ensuring that our natural spaces are not a luxury but a fundamental part of everyday life in Greater Manchester.

Our commitment is further reinforced by Greater Manchester’s Local Nature Recovery Strategy – ‘Nature for All’, which identifies how and where we need to focus our efforts to halt and reverse biodiversity decline. By creating a more extensive, better-connected network of wooded areas, we are not just planting trees and managing existing woodlands; we are building new habitats, strengthening our natural flood defences, helping to clean our waterways and creating a more climate-resilient future for generations to come.

The Forest Plan’s strength lies in its collaborative spirit, which is at the heart of everything we do in Greater Manchester. It is more than a list of actions; it is a call to action for every person, community group, landowner and business in our region. It is a shared vision for a more vibrant, healthier, and greener Greater Manchester. The trees and woodland that make up our region are all our trees, and we must take a shared responsibility for the future of our urban forest.

Together, we can grow a city of trees.

Acknowledgements

The Forest Plan updates ‘All Our Trees – Greater Manchester Tree and Woodland Strategy’, published in 2020 by City of Trees on behalf of, and with contributions from, the Greater Manchester Forests Partnership; a partnership comprising of officers and elected member representatives from each of the ten Greater Manchester districts, Greater Manchester Combined Authority, the Forestry Commission, Natural England and the Woodland Trust.

The partnership is grateful for generous support from the Greater Manchester Combined Authority, Defra, United Utilities, The Forestry Commission, The Woodland Trust, and Viridor, as well as colleagues from the England’s Community Forests network.

Understanding this plan

In response to our dynamic and ever-changing world, All Our Trees has been refreshed in this second iteration, updating the original 2020 strategy to reflect new priorities and opportunities and returning to the traditional term of 'Forest Plan'.

1. The urgent need for trees: context and introduction

The strategic context for the Forest Plan, outlines the rationale for its refresh, the urgent challenges facing Greater Manchester's trees, the role of City of Trees and its partners, and the overarching purpose of the plan in guiding coordinated action.

2. The Forest Plan: protecting and increasing the benefits from our trees

The Forest Plan- sets out Greater Manchester's priorities and the collective actions required, as informed by the evidence base.

3. Greater Manchester's trees: the evidence base

The evidence base – presents results of the largest tree survey of its kind in the UK and provides detailed analysis of Greater Manchester's urban forest in terms of its distribution, structure, what shape is it in, and the benefits to the region's economy and residents.

4. Where do we need more trees?

Presented as a series of maps, this section uses data to model those areas where tree planting could help meet a range of individual ecosystem service needs, and at which locations planting could meet multiple needs.

Supplementary to the Forest Plan, City of Trees will host and maintain a suite of guidance that provides detailed standards, best practice, and legal requirements. They will describe all aspects of how we should plant, establish, and manage our trees to ensure health and longevity, maximise ecosystem benefits and resilience, and minimise the potential disbenefits of trees.

Part One
The Urgent Need for Trees

The context and introduction

1.1 Introduction

City of Trees produced the first iteration of ‘All Our Trees, Greater Manchester's Tree and Woodland Strategy’, in Spring 2020, following 18 months of development, evidence gathering, and consultation with a broad range of stakeholders, before sign-off by the officers and members of the Greater Manchester Forests Partnership.

The intention of All Our Trees was to update and build on our original Red Rose Forest Plan, published in 1993, to further make the case for our urban forest, guide its development over the next 25 years, and to develop an overarching plan that would provide current evidence for any local policies with a tree and woodland element and, ultimately, promote and guide investment in our trees and woodlands.

Since its launch in 2020, All Our Trees has helped inform several local tree policy documents, local plans, the tree policy within Places for Everyone (Greater Manchester’s joint development plan), Greater Manchester Resilience Plan, and the region’s Local Nature Recovery Strategy (LNRS).

Having a comprehensive strategy, integrated with local policy, has also put us in a strong position when positioning Greater Manchester for investment in trees and woodlands, not least the Government’s Trees for Climate and Grow Back Greener programmes, which have funded an additional 500,000 trees, adding over 400 hectares to our forest canopy.

A live map of new trees, hedges and woodlands supported by City of Trees can be found on our impact webpage.

This refresh incorporates new data sets and new national ways of measuring tree targets.

Trees face urgent threats

The time to plant trees in now. Trees take time to grow, and some of the benefits we get from them will not be realised until they mature. Embedding this understanding across Greater Manchester's districts will be vital if we are to ensure that mature trees are protected and that we begin planting the next generation of trees now.

Some urgent threats include:

- Pests and diseases, such as ash dieback or bleeding canker (horse chestnut) – around one million of our trees at risk of being lost over the lifetime of this strategy.

- Old age or poor health – the Greater Manchester i-Tree Eco survey results tell us that around 30% of Greater Manchester's trees are in poor or moderate condition, either because of disease, damage or old age. Trees in poor condition are unlikely to thrive and so we can expect that we will lose these trees over the lifetime of this strategy.

- Maintenance liabilities – those responsible for managing public land may be reluctant to increase the number of trees because of concerns over maintenance liabilities.

- Development – of our urban landscapes, or new development on green field sites, presents a major threat to our forest canopy.

- Mistreatment and loss of urban trees – either through careless construction or from people coming into conflict with some of the disbenefits of trees. An increasingly important reason for tree loss is the unnecessary removal of trees on grounds of safety.

- The climate emergency – extremes of temperature, wind, and rainfall, which could have major impacts on our trees. Climate change also allows pests and diseases to expand their natural ranges, putting more trees at risk.

- Current funding mechanisms – mean that trees often fall through the gaps in funding, contributing to their long-term neglect and decline.

- Planting and establishment standards not being adhered to – can contribute to trees not surviving how they should. Trees that are planted well in the first place and maintained properly are less likely to present problems later. Ensuring that all our trees are planted and maintained according to well established, standards should be a priority for Greater Manchester.

1.2 About City of Trees

City of Trees is the Community Forest for Greater Manchester. We plant trees for people; trees to create better, greener places; to boost health and wellbeing; to enhance green skills and job opportunities; and to tackle the climate and biodiversity emergency.

City of Trees, previously known as Red Rose Forest, was established in the 1990s by the then Countryside Commission to demonstrate the potential contribution of environmental improvement to economic and social regeneration.

As the Community Forest for Greater Manchester, City of Trees is committed to three main aims which underpin our work across the region – we plant trees, look after trees and promote a culture of trees.

Over the last three decades, we have planted over three million trees in Greater Manchester and neighbouring areas, including thousands of street trees, fruit trees, and thousands of metres of hedgerows. We've worked with tens of thousands of volunteers (adults and children) on public events, from tree planting to seed collection and vegetation surveys.

We have developed expertise in all aspects of community forestry, including planting in hard landscapes, natural flood management, and tree establishment.

In the five years since we first published All Our Trees, we have:

- Planted over 400 hectares of new woodland.
- Increased the number of households within 500m of accessible woodland by 70,000, or 3% of Greater Manchester's population.
- The trees we've planted have absorbed 3,000 tonnes CO_2 each year, equivalent to 1000 cars.
- Our planting increased the water storage capacity of our landscape by 40,327 m^3, or around 20 Olympic swimming pools each year.

Our work is underpinned by three core aims: to plant trees, to look after trees, and to promote a culture of trees.

We plant trees

City of Trees takes a place-based approach, planting trees and transforming the spaces where people live, work and unwind. From street trees and schools to orchards and suburban woodlands – it is all part of our urban forest.

We plant trees in both urban and rural areas, creating wildlife corridors between cities and towns, greening school grounds as well as helping to combat flooding and capture carbon by planting trees in upland areas. We want to bring nature and woodlands closer to the people who live and work in Greater Manchester.

Look after trees

We work in existing woodlands across the region to enhance our greenspaces. From nature-based solutions like leaky dams to slow water in high rainfall events, to the removal of invasive species and making our woodlands more accessible through improved pathways and signage, we take care of many aspects of woodland management.

Our urban woodlands are invaluable spaces for biodiversity, improved wellbeing and contribute to future resilience of our urban spaces. Many of our local spaces require care and maintenance, particularly due to their fragmented nature and a potential lack of funding and capacity in highly urbanised regions like Greater Manchester.

Promote a culture of trees

We are passionate about embedding a culture of trees as part of the fabric of life in Greater Manchester – from arts and heritage to health and wellbeing. Trees provide us with so much, and we believe their benefits should not just be recognised within the environment and forestry sectors.

The core of our 'Citizen Forester' engagement approach is to provide an opportunity for people to make a difference through trees and woods. This might be physical improvements to their neighbourhood, or to undertake activities or actions that makes a difference to their livelihoods or the planet.

We welcome a diverse range of people from all walks of life and we believe in the collective strength of community.

1.3 Our role in Greater Manchester

City of Trees plays a key role in representing trees and woodlands for Greater Manchester. The job of delivering the Forest Plan and furthering the aims of community forestry requires collaboration and partnership between public, third and private sector organisations, and all our citizens.

We convene the Greater Manchester Forests Partnership and provide practical and strategic support to the ten districts and Combined Authority of Greater Manchester, contributing to the development of strategies such as the Five-Year Environment Plan. Our work is vital to meet the targets of that plan – helping to ensure that our communities have access to green space, active travel networks and potential for environmental education.

The Forest Plan complements the Local Nature Recovery Strategy, providing details of the strategy's ambition for trees and woodlands.

Our plan supports the ambition and ethos of the Greater Manchester Strategy, set out by Greater Manchester Mayor, Andy Burnham, ensuring trees and woods play a role in housing development, economic growth and life prospects for the people of Greater Manchester.

We also work in partnership with a range of Greater Manchester's environmental third sector organisations.

The Forest Plan responds to, and adds detail to, the documents found in Appendix 1, which refer to the importance of increasing and managing our urban forest.

1.4 Our national profile

England's Community Forest network

City of Trees is part of the England Community Forests network (ECF). As a collective, ECF is the leading woodland creation force in the country.

We are a diverse and growing network of 15 unique Community Forests, each working in partnership with our local communities, landowners, and businesses to help nature recover and regenerate the landscapes in and around our largest towns and cities.

The network provides guidance and support to landowners and land managers to help plan, fund, and plant new woodland of all sizes in both rural and urban settings, drawing on local expertise and people power.

ECF ensures that trees and woodlands are at the very heart of communities up and down the country, unlocking countless benefits for people and planet.

Figure 1: current forests that make up England's Community Forest Network

The Northern Forest

We are a key partner in the Northern Forest, an ambitious programme of environmental and economic transformation.

The Northern Forest, a partnership between City of Trees, The Woodland Trust, The Mersey Forest, The White Rose Forest, Humber Forest and the Community Forest Trust, has now hit the ten million tree mark. It has established enough new trees to cover an area the size of 2,800 football pitches, through tree planting and creating conditions for trees to reproduce on their own.

During the 2024/5 planting season, over 2.2 million new trees were planted across the Northern Forest, the highest annual tree planting recorded since it launched in 2018. This includes over 4,100 larger trees (standard trees) in towns and cities, and new hedgerows on farms to benefit wildlife and the resilience of farming businesses.

Figure 2: the current Northern Forest

Further national influence

City of Trees plays an active role in shaping and supporting national policy on trees and woodlands. While a more comprehensive detail is provided in Appendix 2, this section highlights our key strategic relationships and contributions.

- We support the Forestry Commission, advising on the Urban Forestry and Woodland Advisory Committee to support the Northwest Forestry and Woodland Advisory Committee. In turn, the Community Forest is supported by the Forestry Commission, who provide technical advice, regulatory services, and administers grant funding for larger planting schemes in the wider landscape.
- We work strategically with organisations such as the National Trust and Woodland Trust on a shared urban forest agenda.
- We are supporting the Government's Tree Planting Taskforce, which oversees tree planting across the UK.
- We work with the Trees and Design Action Group (TDAG), to improve knowledge and good practice to support the role of urban trees.
- All Our Trees helped to inform the Tree Council's Trees and Woodland Strategy Toolkit, which provides guidance for local authorities to develop effective trees and woodland strategies.

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Together, these national links strengthen Greater Manchester's influence, align our efforts with wider priorities, and help us deliver more for our urban forest.

1.5 What is the purpose of the Forest Plan?

The Forest Plan has been written to provide an overarching framework of strategic objectives and principles, spatially prioritised, and underpinned by empirical evidence. Greater Manchester's ten districts can reflect these in their own local plans and tree policies, tailored to local conditions and priorities.

This plan and its key actions are commended to all organisations across Greater Manchester who own or manage land, work with trees or the environment, or are committed to the economic growth, resilience and health of the city region and its citizens.

By understanding the vulnerability of our trees, the current make up of the forest canopy, and where more trees are most needed across Greater Manchester and its districts, we can create joined up plans to address threats and guide new and replacement planting to build future resilience.

However, most of the land in Greater Manchester is in private ownership, outside the control of the districts. A coordinated approach is needed to identify suitable land for new tree planting and maximise the value of emerging funding streams (eg green finance) to incentivise change of land use.

Engaging and enabling our citizens and businesses in the planting of and caring for our urban forest has multiple benefits, and we should encourage involvement in established volunteering programmes.

Furthermore, this plan aims to highlight the need to value and look after our existing urban forest, to ensure it flourishes and functions for generations to come.

Part Two
The Forest Plan

Protecting and increasing benefits from our trees

2.1 Where is Greater Manchester's urban forest?

Greater Manchester's urban forest is all around us – on our streets, in our parks, on previously derelict land, and in our countryside. Our forest includes broadleaved mixed woodlands, ancient woodlands, clough woodlands and wet woodlands, upland oak woodlands and wood pasture. These sit alongside veteran and notable trees, newly planted trees and plantations. Map 1 shows this distribution across Greater Manchester.

Some important woodlands in Greater Manchester have been designated for their nature conservation interest (eg Sunbank Woods near Manchester Airport), but many more woodlands are unprotected.

The current National Forest Inventory and Trees Outside Woodlands datasets from Forest Research indicate that, within Greater Manchester, there are around 10,800 hectares (8.5%) of woodland canopy (the layer of leaves, branches, and stems of trees that cover the ground when viewed from above). A further 8,700 hectares (6.9%) of canopy – a roughly equivalent area consists of smaller groupings or individual trees outside woodlands, highlighting their importance in a fragmented, urban landscape.

Tree cover in Greater Manchester isn't distributed evenly, with our most densely populated areas, and urban centres having very low tree cover. Map 1 highlights the pattern of tree and woodland distribution across our city region.

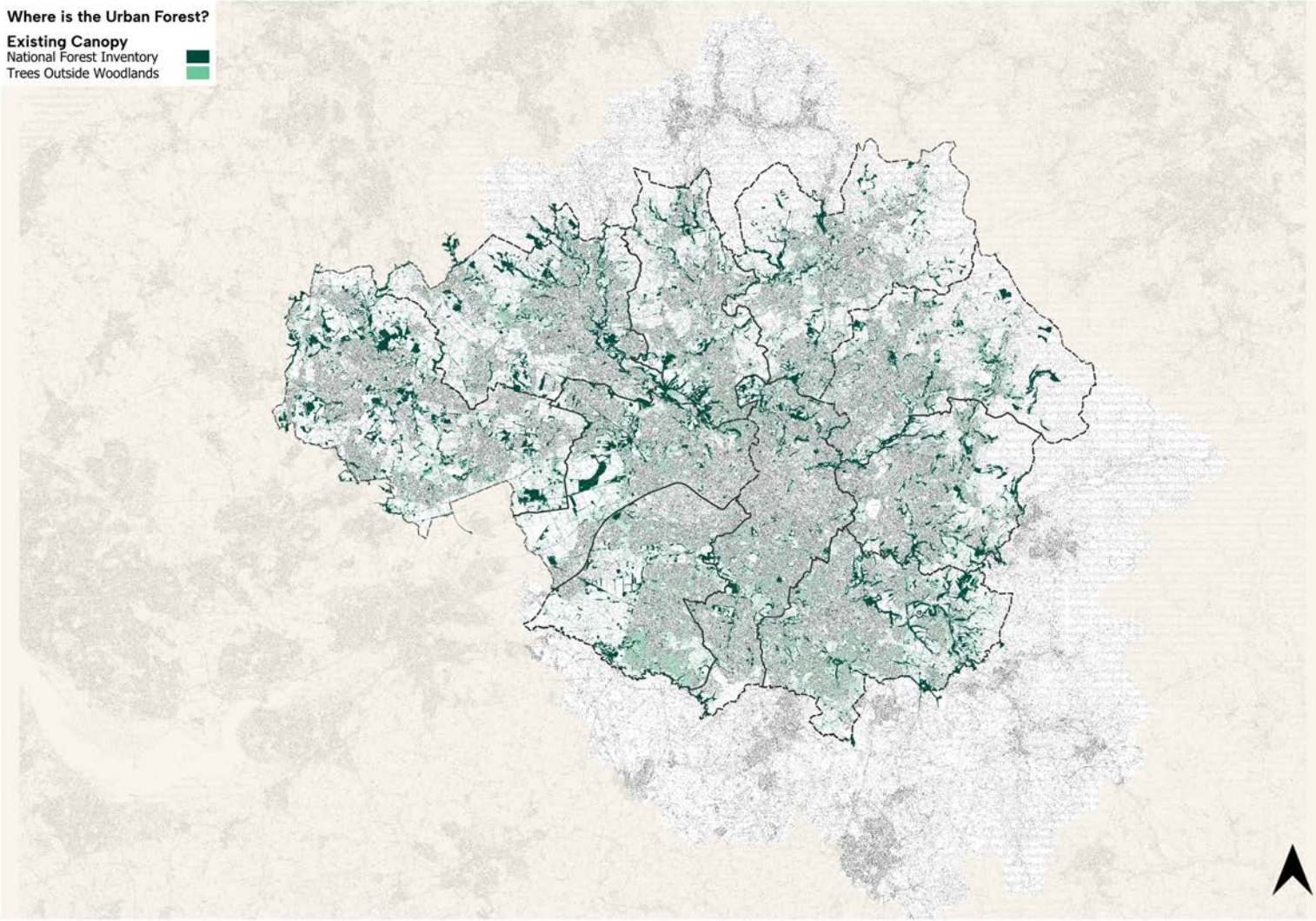
The importance of linear woodland features, such as river valleys and agricultural field boundaries, is evident in Map 1. Less obvious in the map are the large numbers of trees outside woodlands, in our parks, our gardens, our orchards and farms, and lining our streets. Trees outside of woodlands are among the most valuable to society.

Our urban forest

Map 1 highlights the pattern of tree and woodland distribution across our city region.

Whilst the focus of this document is on the trees and woodlands within the Greater Manchester boundary, tree cover and land management in the upper catchments of the River Irwell and River Mersey have a great impact on the resilience and biodiversity of Greater Manchester.

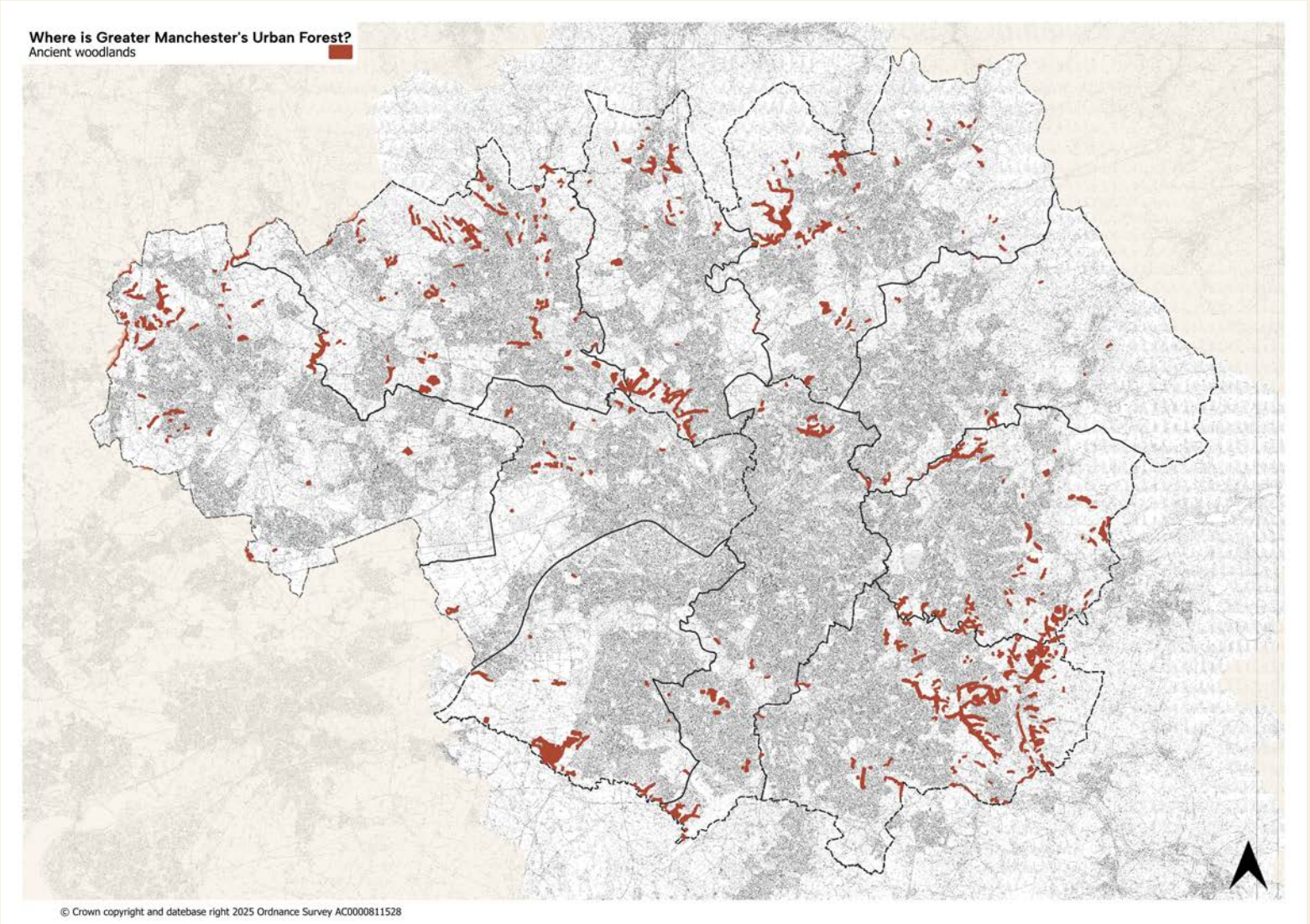
In these strategic areas, City of Trees will work with neighbours and partners to develop opportunities to plant and manage more trees in beneficial locations.



Map 2: ancient woodlands
Ancient woodland is one of our oldest land uses and holds the most diverse ecosystems which are almost impossible to replace if destroyed.

The Greater Manchester Local Records Centre (GMLRC) maintains the Ancient Woodland Inventory (AWI) for Greater Manchester, making use of current technology and better availability of evidence supporting ancient woodland designation.We will share their findings once published.

City of Trees will advocate for the management and protection of any additional ancient woodland areas.



2.2 Aims and objectives

The time to plant trees in now. Trees take time to grow, and the benefits we get from them will not be realised until they mature, which could be 20 years or more into the future.

Embedding this understanding across Greater Manchester's districts will be vital if we are to ensure that mature trees are protected and that we begin planting the next generation of trees now.

The following aims and objectives reflect the City of Trees' ambition and are embedded throughout this plan:

- Plant more trees, and in the right place
- Manage and protect our existing trees and woodland
- Promote a culture of trees to engage our citizens

Plant more trees, and in the right place

- To increase Greater Manchester's canopy by at least 2%, exceeding the UK's national average for urban areas.
- Take a strategic approach to tree planting – using the priority mapping presented within this plan to guide planting addressing the greatest need.
- Create more stepping stones to develop existing habitat networks.
- Identify and release more plantable land.
- Plant more native trees and bigger species to support biodiversity and resilient landscapes.

All new trees will be planted to The UK Forest Standard, with establishment support to reduce failure and potential conflict with existing infrastructure.

Manage and protect our existing trees and woodland

- At least 2,000 hectares of existing woodland brought into active management over the lifetime of this plan.
- Protect and manage our trees to deliver more benefits, and for longer.
- Work with developers to ensure trees lost through development as a last resort, and co-create replacement strategies based on natural capital valuation.
- Promote effective use of existing mechanisms to protect valuable mature trees and woodlands.
- Restore and expand heritage woodland, nurturing orchards and hedgerows across Greater Manchester.
- Exploit emerging mechanisms, such as Biodiversity Net Gain, to manage and improve the quality of existing woodlands.

Promote a culture of trees to engage our citizens with the natural environment

- Create more opportunities for citizens in the planting and caring for our trees and woodlands through our Citizen Forester programme.
- Better understanding among our citizens and policymakers of the benefits of our trees and woodlands.
- Promote and provide learning opportunities for all ages on the benefits of our trees and woodlands.
- Weave the importance of trees and woodlands into the fabric of Greater Manchester life – whether art, heritage or culture to broaden awareness and reach new audiences.
- Work with multidisciplinary partners, organisations and businesses to realise and maximise the benefits of trees.

2.3 Delivering the plan

Our collective action

Protecting and expanding our forest canopy is an urgent task and while local government and landowners have a role to help plan and facilitate action, there are responsibilities at all scales; they are all our trees. A multidisciplinary approach is required to unlock land, combine funding streams and secure green finance.

City of Trees

- Work with government and policymakers at all levels to advocate for the importance of trees and woods to create healthy and resilient places.
- Identify and prioritise opportunities to plant and manage existing trees and woods.
- Develop partnerships and exploit novel approaches to generating funding to support planting and management of trees.
- Develop and maintain green skills and jobs relating to urban forestry, working alongside institutions and partners.
- Engage our citizens in all aspects of tree planting and management through the Citizen Forester volunteer programme.
- Develop an National Urban Forestry Centre in Greater Manchester, to raise the profile of urban forestry nationally.

Landowners

- Explore opportunities for using current agri-environment agreements or novel funding streams, such as Woodland Carbon Fund, and Woodland Carbon Code to fund woodland planting on your land.
- Ensure management plans are in place to benefit from funding opportunities.
- Recognise the value of existing trees on your land and potential value of your land to provide essential ecosystem services – build natural capital value into asset management.
- Seek professional advice to develop risk based plans for managing and replacing ash and other trees threatened either by disease or old age.
- For advice and support with woodland creation and other funded tree planting schemes in your area speak to City of Trees.

Businesses

- Investigate opportunities to support tree planting or tree management close to your business. City of Trees can work with you to identify and deliver projects which will help you meet your ESG objectives.
- Donate to local tree planting projects to help reduce your organisation's impact on the environment and provide an opportunity to give back to nature through voluntary carbon offsetting.
- Identify opportunities for staff to get involved in tree and woodland volunteering programmes such as City of Trees' Citizen Forester programme.
- If a business (or local authority) wants to report their mitigation efforts against their carbon emissions, they should consider supporting the Woodland Carbon Code.

Schools

- Plant trees on your school site.
- Support the development of a forest school and outdoor education activities at your school.
- Weave the importance of trees and woods into educational sessions and encourage hands on participation in the natural world.

Developers and contractors

- Integrate existing trees into new developments, increase levels of high-quality tree planting and ensure trees are well maintained.
- Ensure protection of trees during construction/demolition or other site works.
- Undertake more mitigation and compensation planning before submitting applications.
- Report environmental impacts more clearly and transparently.

Social housing providers

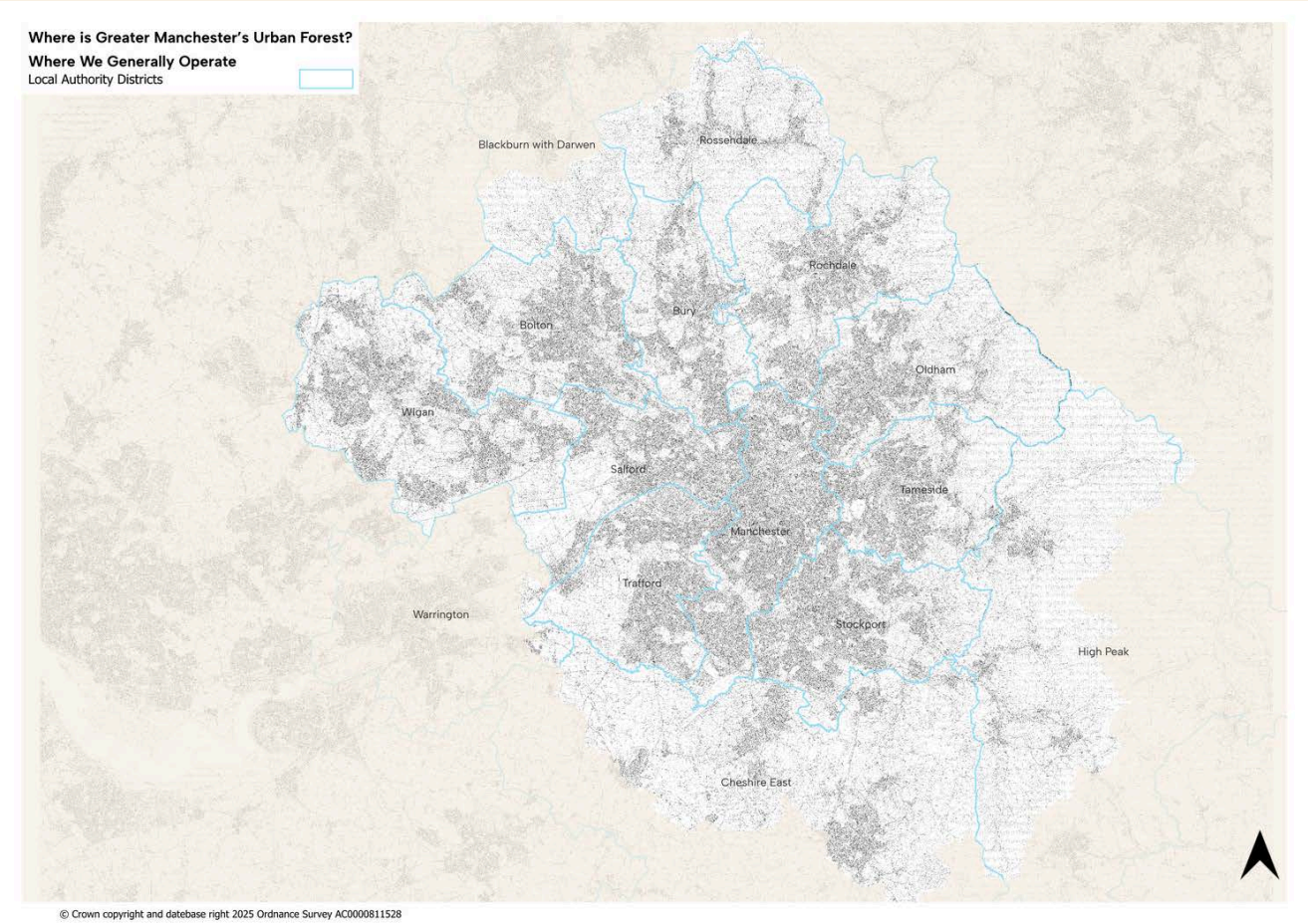
- Work to implement relevant parts of the Forest Plan, and direct developers to do likewise.
- Recognise the value of mature trees to the economy and citizens of Greater Manchester, endorse the principles of this plan and develop or review local strategies or policies on trees and woodlands, to reflect them alongside local priorities.
- Develop clear tree policies – and resist requests for tree removal based on spurious reasons, such as leaf drop, attracting birds / insects.

Greater Manchester Health and Social Care Partnership (GMHSCP)

- Develop social prescribing and nature for wellbeing programmes that involve physical contact with trees and woodlands.
- Work in partnership with environmental organisations to deliver such programmes and to support the long-term delivery of nature for wellbeing activities.
- Plant trees and develop wooded areas on NHS and healthcare estates.

Greater Manchester's local authorities

We want to build on our success of working in partnership with local authorities. They are well placed to take action on trees, as they have a range of other areas of responsibility.



Map 3: shows local authority districts in which we generally operate

Planning and development management

- Take account of the content of the Forest Plan in their role as statutory planning authorities.
- Recognise the importance of mature trees and that the loss of mature trees means loss of benefits and decreased resilience.
- Enforce National Planning Policy Framework (paragraph 118) statements on protection of irreplaceable habitats.
- Take a tree-first approach to local authority developments (or redevelopments) to avoid retrofitting and associated costs/ disruption.
- Move toward a natural capital approach when considering proposals for tree losses and replacements – moving beyond basic numeric replacement conditions.
- Refer to planting priority maps in Section 4 when considering options for replacement of mitigation planting, or net gain proposals relating to offsite gain.

Greenspace and land management

- Support partner organisations to deliver tree planting and woodland management.
- Develop or support approaches to actively engage citizens in monitoring and protection of their local trees.
- Be proactive in the use of and promote mechanisms to protect existing trees.

Policymakers

- Work to implement relevant parts of the Forest Plan, and direct developers to do likewise.
- Recognise value of mature trees to economy and citizens of Greater Manchester and endorse the principles of this plan and develop or review local strategies or policies on trees and woodlands, to reflect them alongside local priorities.
- Make the maintenance and uplift of existing woodland sites in local authority areas a priority.

Highways management

- Recognise street trees as assets and factor in the benefits of trees on highways when considering adoption fees.
- Ensure contractors take care and work to recognised standards when working around existing trees and refer them to the standards section of this plan.
- Identify further opportunities for planting street trees.
- Continue to work with Transport for Greater Manchester (TfGM) to incorporate trees into street design, helping them implement Streets For All and the Bee Network.
- Plant trees and hedges around our schools and busy roads, using careful design to reduce exposure to harmful air pollutants.

2.4 Measuring success

In 2020, we committed to working towards planting three million trees (one for every person living in Greater Manchester) in the city region, within a generation (roughly 2045). This gave us a useful metric for engaging people and catalysing action, and one that we can more easily measure our progress toward. The downside is that, unlike a canopy target, planting targets don't account for tree losses from development or disease.

In 2022, the UK committed to plant an additional 2% of land with trees to reach a 16.5% canopy cover from a baseline of 14.5% by 2050. To support this, The UK's Forest Research agency has published new national datasets on tree cover, which we can use in the future to monitor our progress.

In Greater Manchester, we want to increase on the UK ambition by reaching for an additional 2% canopy cover (on a revised 2022 baseline of 15%) to achieve an area of 17% tree cover as early as 2035 (the horizon of the Local Nature Recovery Strategy). This will be a stretch target, representing as much as 2,500 hectares of new woodland, but we are optimistic that with support from Government, our local authorities and private landowners, and alignment with the Local Nature Recovery Strategy, it will help us accelerate planting rates even further.

City of Trees will track the planting of new trees, woods, and hedgerows, delivered by us and by partners where we can, but this won't capture the impact of losses through development or disease. In the longer term, as young trees mature, we will be able to use canopy data from Forest Research to see how well we've progressed toward our target.

As well as recording trees planted and hectares of woodlands managed, we will record people's increasing access to wooded areas, and the numbers of children and adult volunteers engaged. We will also record measures that describe the impacts of what we do on the wellbeing of our Citizen Foresters.

We will continue to work with our academic institutions to understand the ongoing impact of our urban forest on carbon absorption, air quality and flood resilience of our urban environments.

It is proposed that the Forest Plan, targets and actions are reviewed every five years. Every 12 months, City of Trees (on behalf of the Greater Manchester Forests Partnership) will submit a progress report to Greater Manchester Combined Authority highlighting what has been achieved in terms of the number of trees planted and woodlands brought back into active management. This will form the basis for reviewing and guiding target planning and priorities for the following years.

Part Three
Greater Manchester's Trees

The evidence base – what we know about Greater Manchester’s trees

While we've known for a long time what the distribution of our trees is, we wanted to better understand the make up and condition of our canopy, and to demonstrate what all our trees are doing for us in natural capital terms.

3.1 How we collected the evidence

i-Tree Eco survey data

Between May and November 2018, we conducted the largest ever i-Tree Eco survey undertaken outside the USA. This is around three times the size of Greater London's, in terms of the number of plots surveyed. Data on species, mass, and condition were collected from more than 6,000 trees across Greater Manchester. City of Trees recruited and coordinated a team of 57 surveyors who visited almost 2,000 sample plots (full methodology is available on request from City of Trees).

While the data below is presented to illustrate Greater Manchester's forest canopy as a whole, the study was undertaken to facilitate the presentation of data disaggregated to each of the ten districts, for use in developing district-specific local plans and policies.

Act as a filtration system for harmful air pollutants – removing 847 tonnes of pollutants each year.

Sequester 56,530 tonnes of carbon each year and the current carbon of all the trees in the region is 1,573,015 tonnes.

They assist with excessive storm water, intercepting 1.6 million cubic metres of storm water run-off per year.

Greater Manchester's trees produce 122,450 tonnes of oxygen each year.

The total annual economic value of air pollution filtration, storm-water attenuation and carbon sequestration in Greater Manchester's trees is £33,298,891.

It would cost over £4.7 billion to replace all Greater Manchester's trees like for like.

3.2 Canopy structure

Tree population

Across Greater Manchester there's an estimated 11,321,386 trees. The trees that make up our urban forest are situated on both public and private property.

Across the urban area, it is estimated from the i-Tree Eco data that 29.5% of trees are in public ownership and 70.5% in private ownership.

Tree density across Greater Manchester is 89 trees per hectare. This is significantly higher than the average density of trees across London (53 trees/ha)2 and the current UK average for towns and cities (58 trees/ha).

Canopy cover

iTree modelled a canopy cover of 15.7% which compares well with the latest data published by Forest Research (2022). This indicates that 15% of Greater Manchester's land is beneath canopy of woods or trees outside woodland.

We will be using the 15% as our baseline going forwards.

Tree species composition

Tree species composition is an extremely important metric to consider for the sustainable management of the urban forest.

Its diversity of species will influence how resilient the tree population will be to future changes, such as minimising the overall impact of exotic pests, diseases and climate change.

As shown in Figure 3, the three most common species across Greater Manchester are hawthorn (crataegus monogyna) with an estimated 1,178,310 trees (10.4%), sycamore (acer pseudoplatanus) with 976,604 trees (8.6%) and English oak (quercus robur) with 903,811 trees (8.0%).

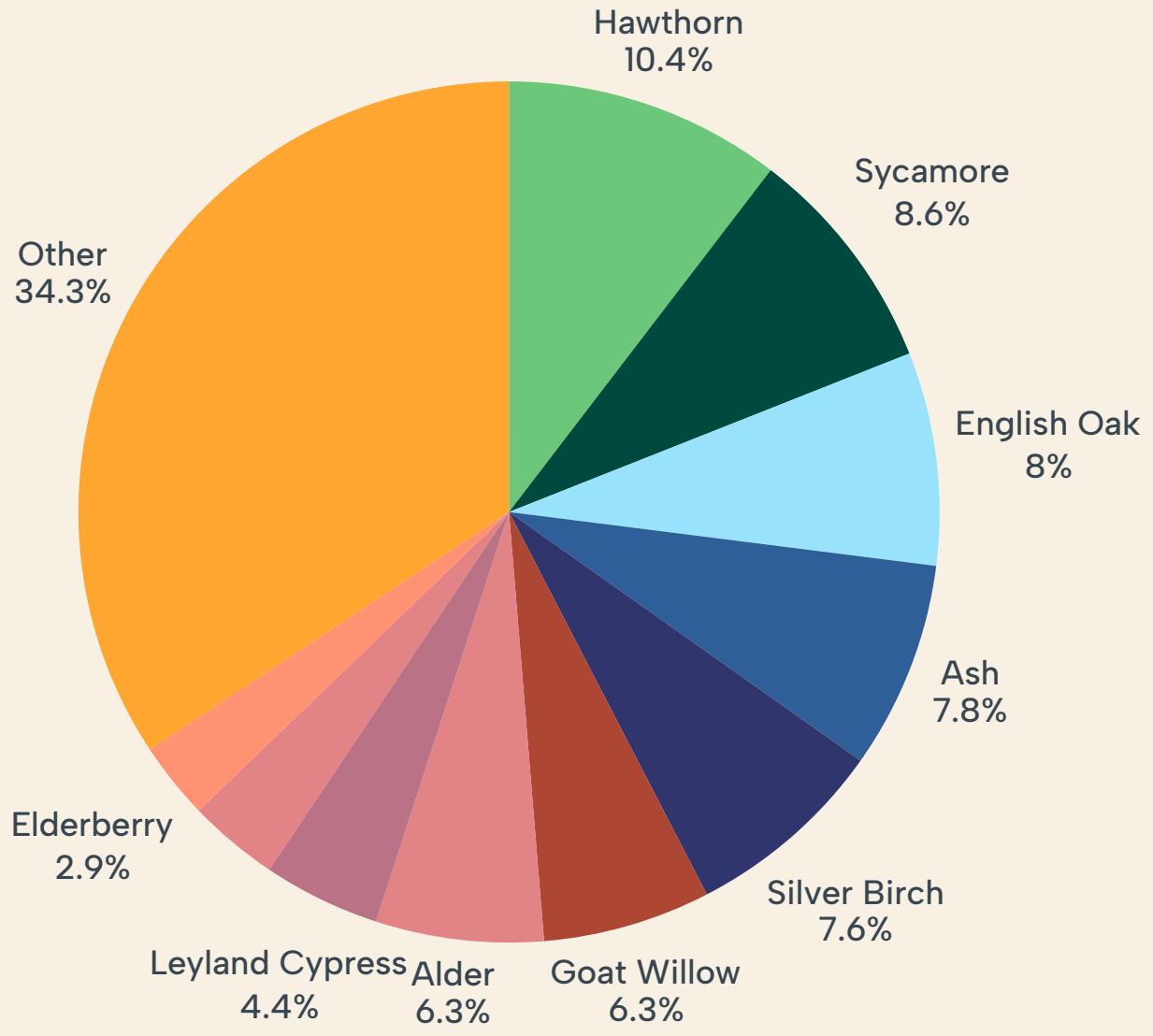


Figure 3: Tree species composition

In Greater Manchester, the top ten species account for 65.7% of the total population, with hawthorn making up a relatively large proportion of the total.

Tree size distribution

The size distribution of trees is another important consideration in managing a sustainable and resilient tree population as this will ensure that there are enough young trees to replace those older specimens that are eventually lost through old age or disease.

The results also suggest a high percentage of younger trees within Greater Manchester, which is important for a resilient population when replacing older trees. If the younger specimens are allowed to reach their full potential, they should increase the canopy cover alongside the ecosystem services provided within Greater Manchester, but it is important to ensure that trees are managed to allow them to mature.

Leaf area and dominance

While the tree population statistics tell us that we have a relatively diverse and young forest canopy, the main benefits derived from trees are directly linked to the amount of healthy leaf surface area that they possess. Understanding the leaf area gives us a greater understanding of the extent to which different species deliver benefits within the urban forest.

While sycamore and ash make up relatively high proportions of the total leaf area of Greater Manchester's urban forest, hawthorn has relatively low leaf area and low dominance. This is shown in Table 1.

What this means for managing our urban forest is that, while we have a relatively young and diverse forest, the most frequent tree of all contributes only a low level of benefit. To maximise the benefits we get from our forest, we need to increase the number of larger, leafier species.

Species	% Population	% Leaf Area	Dominance Value
Sycamore	8.6	16.9	25.5
Ash	7.8	8.8	16.6
Hawthorn	10.4	5.6	16
English Oak	8	7.8	15.7
Silver Birch	7.6	6	13.6
Goat Willow	6.3	5.6	12
Alder	6.3	4.7	11
Beech	2.8	7.7	10.5
Sweet Cherry	3.4	3	6.4
Leyland Cypress	4.4	1.8	6.1

Table 1: ten most dominant tree species in Greater Manchester

Tree health

One of the key factors in assessing the vulnerability of the urban forest to a particular pest or disease is the overall condition of the tree population. Tree condition was measured across seven criteria (excellent, good, fair, poor, critical, dying or dead) as part of this survey. Figure 4, below, shows the health of the top ten most dominant species (the combination of leaf area and population).

It shows that there is considerable variability in the condition of the trees included in the eco inventory. 71.7% of the trees assessed in the Greater Manchester inventory are considered to be in either excellent or good condition.

This compares with the London i-Tree Eco study, where 86% of the trees were found to be in excellent or good condition. The reasons for this are not clear, although it would suggest Greater Manchester's trees may not be as well managed as London's. Of particular concern is the relatively low proportion of oak and wild cherry in good condition.

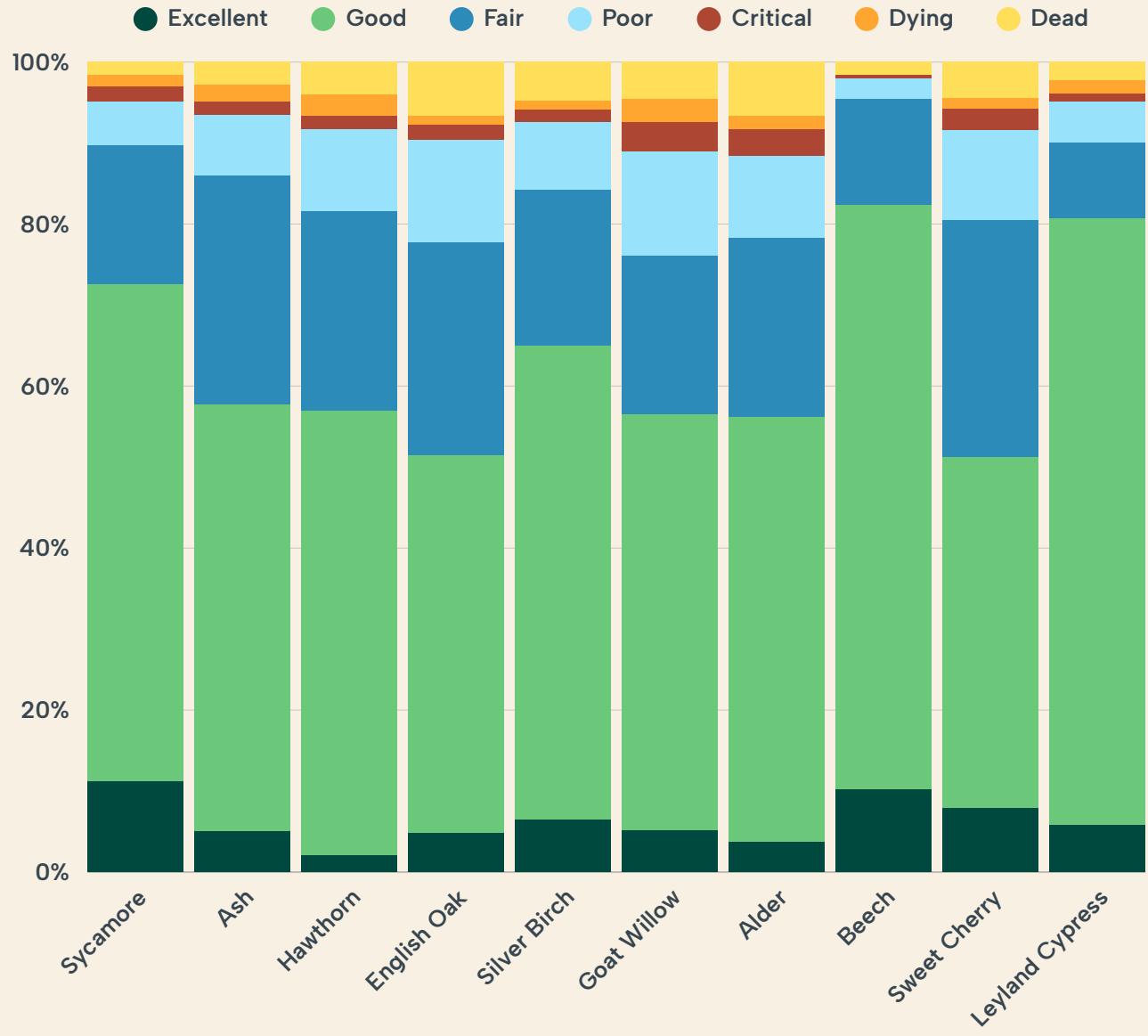


Figure 4 : Tree health rating for the top ten trees (by dominance value) across the Greater Manchester study area

3.3 Ecosystem services

Ecosystem services are the various benefits that humans derive from ecosystems. The interconnected living and non-living components of the natural environment offer benefits such as pollination of crops, clean air and water, decomposition of wastes, and flood control.

In addition to the canopy structure information above, our survey allowed us to quantity the following benefits we all derive from our forest canopy:

- Pollution removal and human health impacts.
- Carbon sequestration and storage.
- Hydrology effects (avoided run-off, interception, transpiration).

Air pollution removal

Air pollution caused by human activity has become a growing, albeit changing problem, in our urban areas since the beginning of the Industrial Revolution. Initially, with the increase in population and industrialisation, and latterly with the huge increase in the numbers of vehicles on our streets, it has resulted in large quantities of pollutants being produced.

Trees make a significant contribution to improving air quality by reducing air temperature (thereby lowering ozone levels), directly removing pollutants from the air, absorbing them through the leaf surfaces and by intercepting particulate matter (eg: smoke, pollen, ash and dusts).

Trees can also indirectly help to reduce energy demand in buildings, resulting in fewer emissions from gas and oil-fired burners, less excess heat from air conditioning units and reduced demand from power plants.

As well as reducing ozone levels, it is well known that several tree species also produce volatile organic compounds (VOCs) that lead to ozone production in the atmosphere. The i-Tree software accounts for both reduction and production of VOCs within its algorithms.

Although at a site-specific level some trees may cause issues, the overall effect of Greater Manchester's trees is to reduce the production of ozone through a combination of processes such as evaporative cooling.

Total pollution removal across Greater Manchester (i-Tree Eco sample survey) is estimated at 847 tonnes or 0.0066 t/ha/yr (6.6kg/ha/yr). This value is substantial.

By comparison, the recorded average for pollution in the same study in Greater London was 0.014 t/ha/yr, Glasgow 0.050t/ha/yr and Torbay 0.0078t/ha/yr.

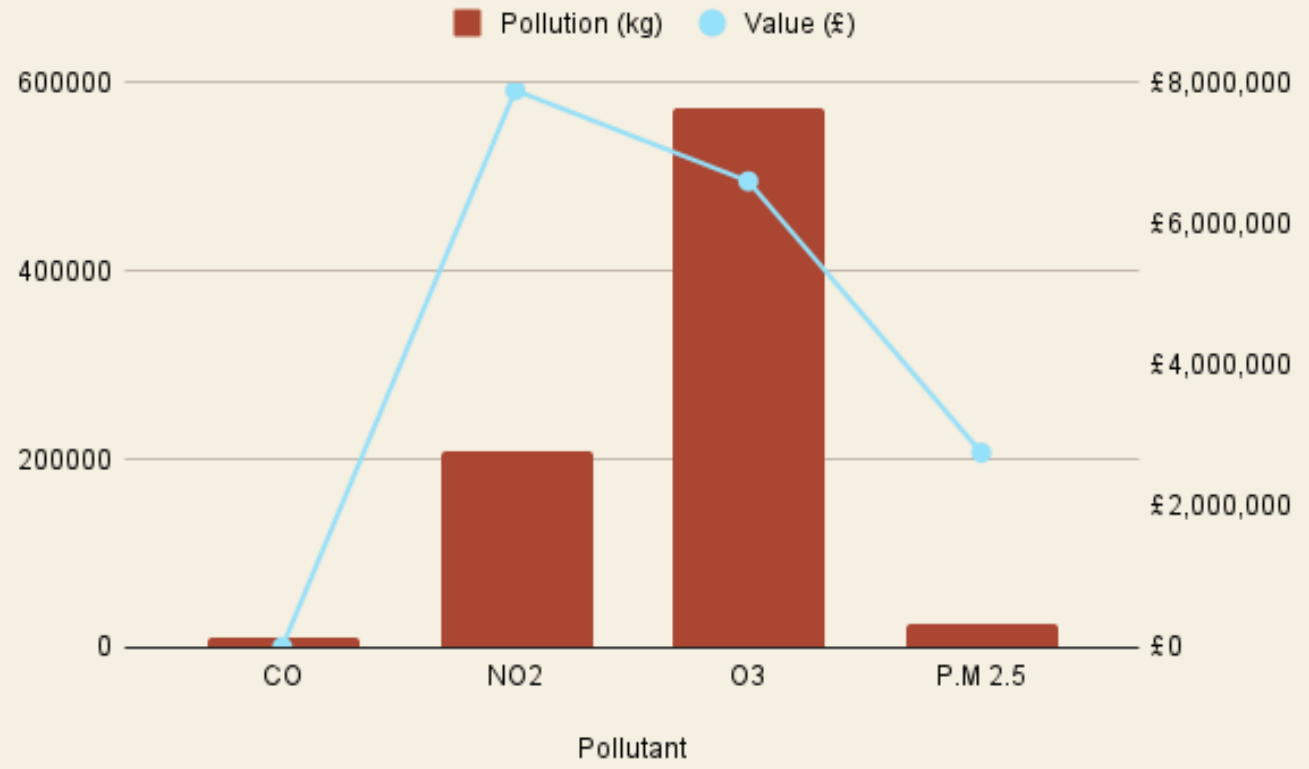


Figure 5: value of the pollutants removed and quantity per-annum within Greater Manchester. Valuation methods used are UK social damage cost (UKSDC) where they are available – where there are no UK figures, the US externality cost (USEC) are used as a substitution.

Total annual amounts and pollution removal values for Greater Manchester are shown in Figure 5.

By quantity, removal of Ozone (O3 – formed by the action of sunlight on nitrogen dioxide) is greatest, with over 573 tonnes filtered from the air every year, with an associated value of over £6,607,490. By total value, the work done by trees to remove nitrogen dioxide is greatest, worth nearly £7.9 Million.

However, by unit value, the work done by trees to remove small particulate matter (PM2.5) proves to be of greatest benefit, worth £104.63 per kg (a total value of over £2.7 Million from over 26.4 metric tons of particulate matter removal).

Greater tree cover, pollution concentrations and leaf area are the main factors influencing pollution filtration. Increasing areas of tree planting have been shown to make further improvements to air quality.

Furthermore, because filtering capacity is closely linked to leaf area it is generally the trees with larger canopies that provide the most benefits.

Carbon storage and sequestration

Trees have a significant influence on the balance of carbon in the atmosphere, sequestering atmospheric carbon as they grow as part of the carbon cycle.

Since about 50% of wood by dry weight is comprised of carbon, tree stems and roots can store carbon for decades or even centuries. Over the lifetime of a single tree, several tons of atmospheric carbon dioxide can be absorbed.

Carbon storage relates to the carbon currently held in trees tissue (roots, stem, and branches), whereas carbon sequestration is the estimated amount of carbon removed from the atmosphere in carbon dioxide (CO_2) annually by trees. Net carbon sequestration can be negative if the emission of carbon from decomposition (dead trees) is greater than the amount sequestered by healthy trees.

Maintaining a healthy tree population will ensure that more carbon is stored than released, supporting both national and local governments' net zero ambitions.

Using timber in long-term wood products will keep the carbon locked out of the atmosphere. Using wood to help heat buildings or produce energy will also help to reduce carbon emissions from other sources, such as power plants.

An estimated 1,573,013 tonnes (approximately 12.3t/ha) of carbon is stored in Greater Manchester's trees with an estimated value of £374,935,529.

For comparison, across London carbon storage is around 15t/ha on average.

The results presented in Figure 4 are the optimum functioning of the tree biomass available but, due to environmental and other constraints, trees may be performing below this optimum.

It is therefore important that the trees we currently have are managed to improve health and growth, to maximise the benefits they offer.

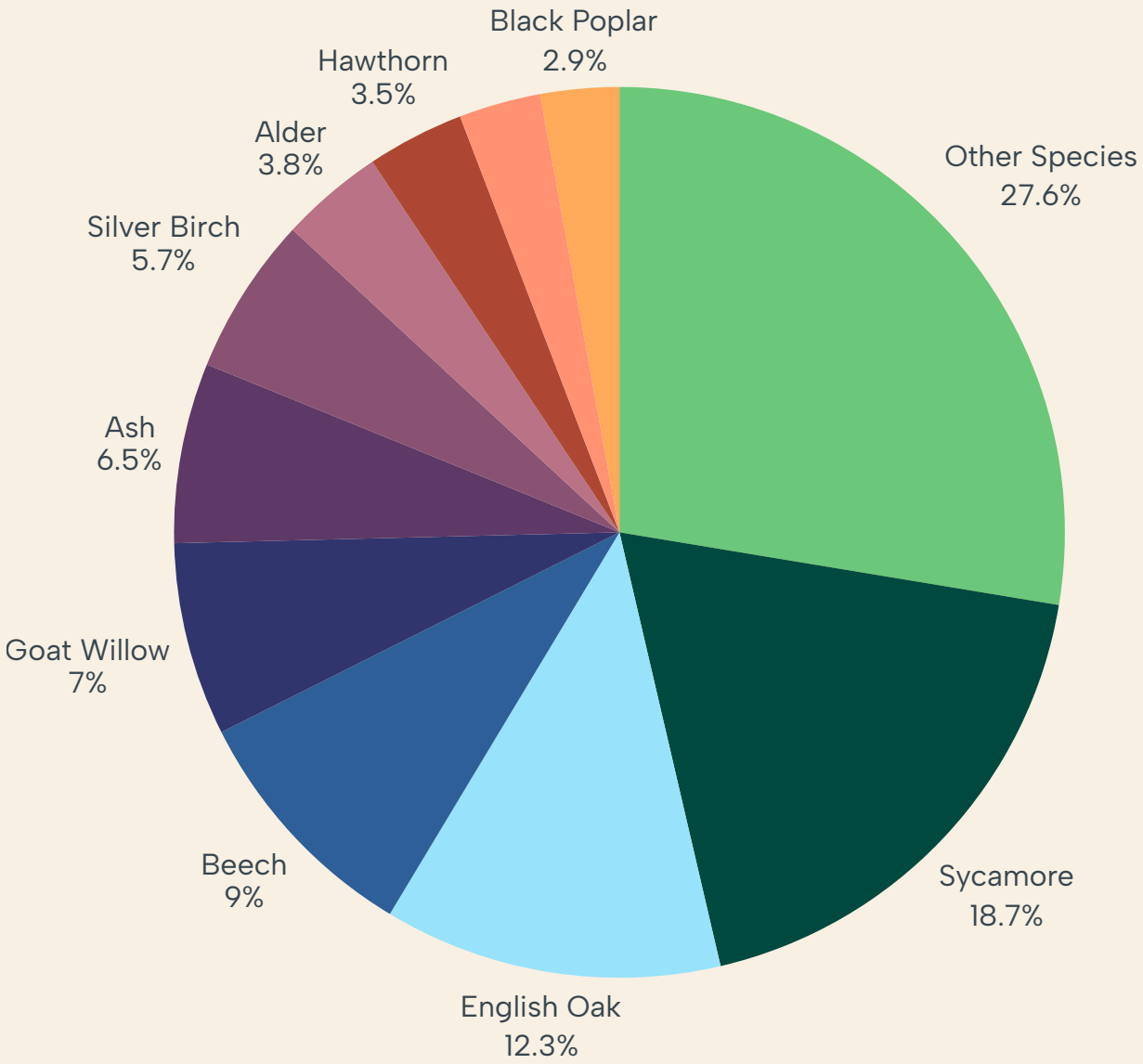


Figure 6: carbon storage (%) by species for the top ten trees across Greater Manchester.

Avoid run-off and attenuation

Surface water flooding occurs when rainfall runs off land and buildings at such a rate that it is unable to drain into streams, rivers, drains or sewers, causing sewers to discharge directly into nearby watercourses. Run-off occurs in the built environment from virtually every rainfall event with streams receiving frequent discharges of polluted run-off from urban surfaces (hydrocarbons, suspended solids and metals etc).

Trees have the potential to 'capture' an amount of water during rainfall events, which is held in the canopies of the trees. After these rainfall events, this moisture is then re-evaporated into the atmosphere.

The cycle may repeat many times and water cycled in this way is diverted and thereby prevented from entering combined sewers. Some of the rainfall will also be directed down the tree's network of branches and stem directly into the soil at the base of tree. In these two ways trees attenuate or reduce run-off.

The 'value' of this benefit or ecosystem service is that if the water is diverted from the combined sewerage system, then it does not have to be treated, meaning a very real saving in treatment costs and avoided energy emissions.

Greater Manchester has an estimated total tree population of 11,321,386 trees with a leaf area of approximately 859.1 km². The effect of this leaf area is to produce an avoided run-off of some 1,644,415 m3 per year.

This is the equivalent of more than 657 Olympic-sized swimming pools.

3.4 Additional benefits of trees

Trees and woodlands play a significant role in creating resilient and healthy city-regions. The benefits that these trees provide are outlined below:

Health and wellbeing

There is growing evidence to show that being outdoors and in green spaces can have a positive impact on our physical and mental health. Being in woodland spaces has been proven to reduce stress levels, lower blood pressure and improve mental wellbeing.

In addition, we are more likely to engage in active travel such as walk and cycling, if we have attractive outdoor spaces with trees. Trees are also source of healthy food, with urban orchards providing opportunities for sustainable and community focused food production.

Research from the University of Salford (2025) suggests that taking part in civic environmental activities (eg Citizen Forester) leads to improved mood, linked to hedonistic wellbeing. In the context of nature, the phenomenon facilitates physical activity, social connections, learning opportunities, a sense of citizenship, a connection to nature, and nurtures a sense of purpose and self-worth.

Climate regulation

In urban areas, trees play a vital role in greening our streets. Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration. Shaded surfaces, for example, may be 2 to 8°C cooler than the peak temperatures of unshaded materials. Reducing temperatures also reduces the need for air conditioning and so helps to reduce emissions. In 2022, the UK experienced a record number of heat-related deaths, with an estimated 2,985 excess deaths associated with five heat periods in England.

The UK Health Security Agency (UKHSA) has been monitoring heat-related mortality since 2016, and the trend shows a general increase in both heat-episode days and heat-associated deaths over that period.
Trees can also reduce wind speeds, potentially making areas safer and more attractive to spend time in. Trees that shelter buildings also have the potential to reduce energy consumption and heating costs.

Habitat and wildlife

Trees, particularly in an urban setting, provide much needed habitats to encourage biodiversity – providing homes for a range of wildlife from insects and birds to small mammals. Trees and shrubs provide networks of greenspace for wildlife to move across, connecting protected sites together, and connecting rural areas with town and cities, ensuring that species can find partners to breed, forage for food and find homes.

The Greater Manchester's Local Nature Recovery Strategy consultation highlighted residents' perception that planting new trees and woodlands are a key step to improving nature locally.

Improving places

Trees and woodlands create attractive environments that boost civic pride and a unique identity for towns and cities. Research has highlighted the 'linger' effect of trees in urban centres – people are more likely to use areas as leisure facilities and browse and shop in areas and streets lined with trees.

Good aesthetic quality can increase land and property value as well as improving opportunities for eco-tourism.

Maximising benefits

To fully realise these benefits is important to remember that all trees are not equal. Larger trees with bigger leaf canopies will offer much more in terms of carbon sequestration and climate regulation, as well as hosting a wide range of wildlife. Larger trees are also often the ones that people have a connection with, maybe through observing them throughout their lifetime or just appreciating their heritage value. Healthy trees are also much more valuable.

Trees will also offer more to urban populations if they are located nearby – to help manage the different benefits. Currently access to trees and greenspaces is very unequal across Greater Manchester, with areas of greater socio-economic deprivation having less. For benefits to be equally realised more trees need to be planted in these areas.

3.4 Specific threats to Greater Manchester's trees

Lack of management

Due to the different ways in which woodland can be managed and its cyclical nature, it is very difficult to accurately quantify the extent of woodland management activity across Greater Manchester.

It is clear however, that most woodlands in Greater Manchester do not have an up to date management plan or schedule of operations, and this includes many of the small woodlands planted by Red Rose Forest since the 1990s.

One of the ongoing challenges for woodland managers is getting the resources to support management.

Pests and disease

Various insects and diseases can affect trees, reducing both their health and value, and therefore the sustainability of our urban forests.

As most pests generally tend to have a specific range of tree hosts, the potential damage that can be caused by each pest will differ. Two diseases in particular present an immediate threat to Greater Manchester's forest canopy:

Bleeding canker

Bleeding canker is a disease that affects horse chestnut trees (aesculus hippocastanum). It was first reported in Britain in the 1970s, however its incidence has increased dramatically since 2000 with around half of all horse chestnut trees now showing symptoms. This disease could affect around 0.4% (or 46,449) of the trees in Greater Manchester.

Ash dieback

Ash dieback, hymenoscyphus fraxineus (also known as chalara fraxinea), is the most significant tree disease to affect the UK since Dutch elm disease which was first recognised in the 1960s. It's expected to lead to the decline and death of the majority of ash trees in Britain and has the potential to infect more than two billion ash trees (over 1.8 billion saplings and seedlings to more than 150 million mature trees) across the country.

European ash (fraxinus excelsior) is the fourth most common tree species within Greater Manchester and so 7.9% of the total tree population is at risk (or 889,612 trees). Ash trees can be large in stature, provide a significant quantity of ecosystem services to Greater Manchester, and should they perish, they would be costly to replace (Figure 7).

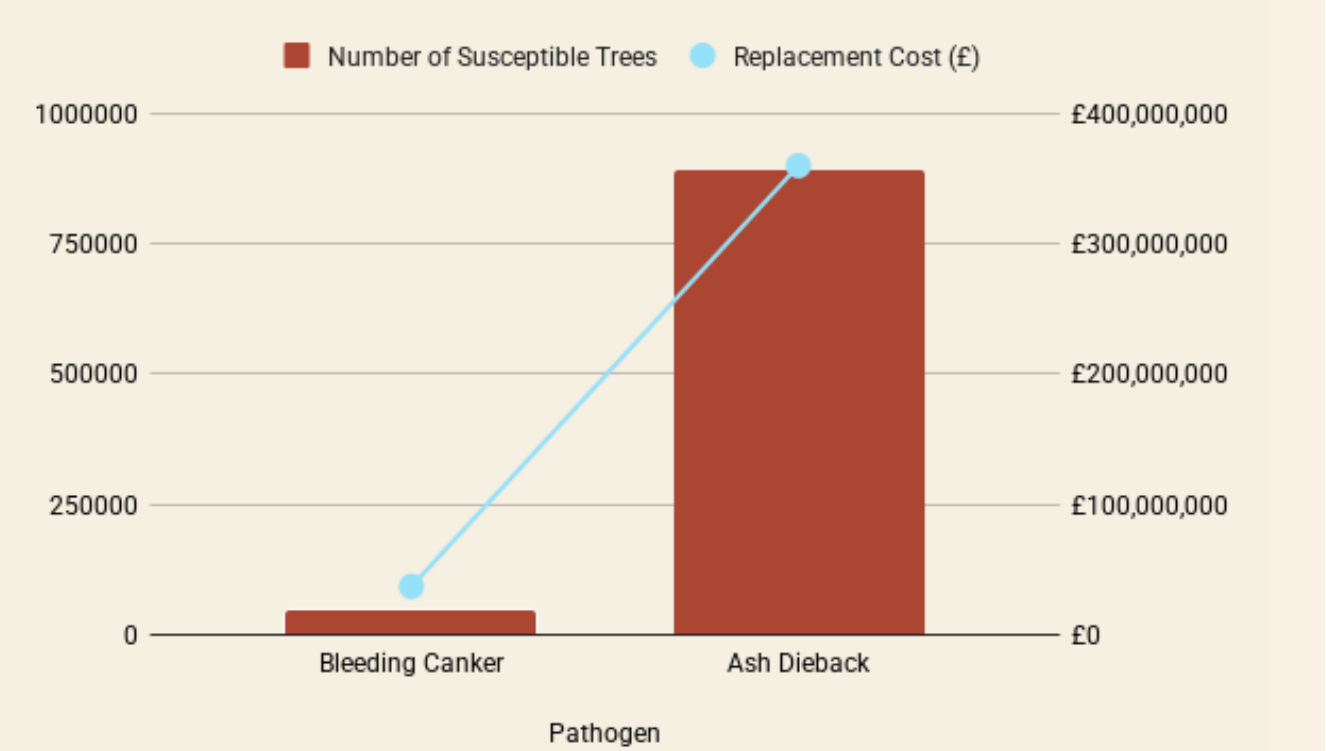


Figure 7: potential replacement cost of pest impacts

General mortality

Even though we are planting new trees, many of our trees are already nearing the end of their lives.

The i-Tree Eco survey found that 71.7% of the trees assessed in the Greater Manchester inventory are in either excellent or good condition, which means around 28% are less than good, either because they are old, overcrowded, damaged, or diseased.

Trees in poor condition are less likely to thrive, so we can expect that we will lose many trees to poor condition over the lifetime of this plan.

Climate crisis

Climate change is bringing both incremental changes and more frequent extreme weather events, both of which could have major impacts on our trees. Severe storms along with an increase in precipitation increases instability, causing more fallen limbs or entire trees. Although many trees are resilient to a certain degree of drought, any increases in temperature could make droughts more damaging to them.

The summer of 2018 was exceptionally dry and resulted in the loss of many young trees. Climate change will also see likely increases of pests and diseases as the natural boundaries of pathogens shift.

Mistreatment of urban trees

Ongoing redevelopment of our urban landscape can threaten trees even when they're not being cut down. Where contractors digging in our roads and pavements dig through and damage roots of trees, or park heavy vehicles on roots. Also, trees may be considered a nuisance when residents come into conflict with the disbenefits of trees, such as:

- Branches overhanging boundaries.
- Light reduction.
- Leaf or fruit drop.
- Ground-lifting by roots.

This can result in residents removing trees, undertaking works themselves or using uncertified contractors causing damage or killing trees.

We know from decades of experience that a joined-up approach and working with residents helps to prevent unnecessary tree loss or damage.

Trees can be protected using Tree Preservation Orders (TPOs), by planning departments using conservation areas.

Part 4
Where Do We Need More Trees?

4.1 Where do we need more trees?

We face urgent and significant environmental and social challenges in Greater Manchester, but we know that a healthy urban forest can be part of the solution, particularly where trees are incorporated into engineered solutions, such as with sustainable drainage solutions.

Greater Manchester's Places for Everyone policy on trees and woodlands (JP-G7) recognises that we need to "target tree planting at the areas of greatest need where the green infrastructure benefits can be maximised, whilst avoiding the loss of, or harm to, other priority habitats".

The following sections of the Forest Plan present a series of maps that highlight priority areas for new tree planting, where the greatest number of needs for tree benefits can be met, and where individual tree benefits can be best provided, be that flood alleviation, air quality, enhancement of active travel routes etc.

4.2 The maps

In producing the following maps, we focused on those tree benefits that we think represent the most pressing needs for Greater Manchester (see Appendix 3) and to connect people with their environment, use greenspaces to improve people's health and wellbeing, and focus on disadvantaged areas, to ensure access to trees is equitable.

In a time when resources are limited, these maps should be used to guide the prioritisation of future tree planting to ensure that we get the best return on our investment.

The final product of the exercise is a set of scalable maps of locations where constraints to planting are minimal, and where careful planting could assist in delivering one or other of the in-scope services that can also highlight and score locations where tree planting could deliver multiple benefits.

It should be noted that identification of priority areas for new planting does not imply that permissions have been sought or agreed.

Our intention is simply to highlight those areas where there is the greatest level of need for the specific benefits that additional trees could provide, and the physical possibility to plant trees.

Any planting proposals would necessarily involve identifying and engaging the landowners, followed by site-based ground truthing and planting design exercise to establish practical feasibility, and for consultation with local partners to ensure no conflict exists with other local priorities.

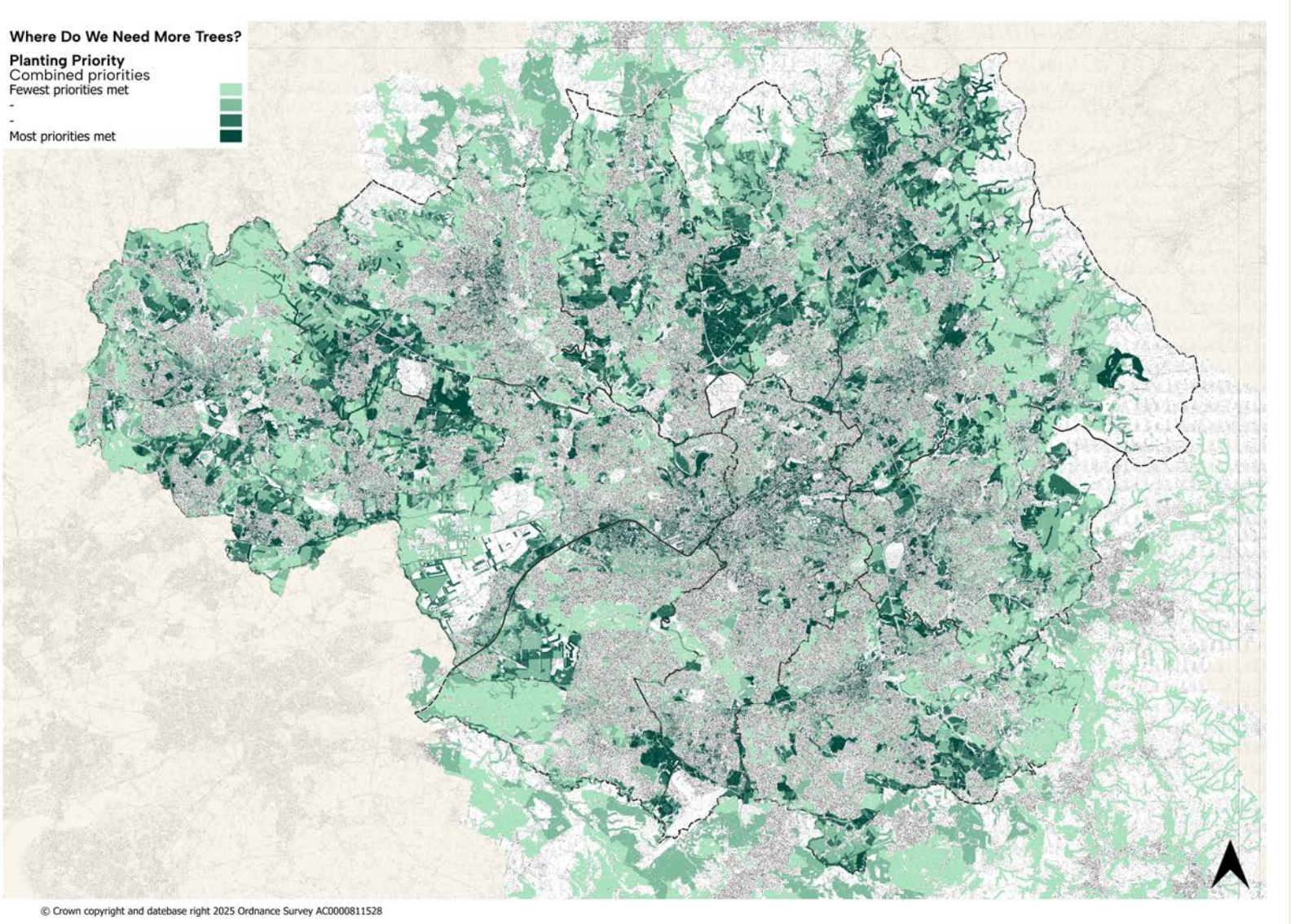
Furthermore, the effective delivery of benefits by trees will depend on trees being planted well and established.

For full detailed methodology, please see Appendix 3, Interested parties can contact City of Trees to request detailed information about their areas.

Combined priority map

Map 4

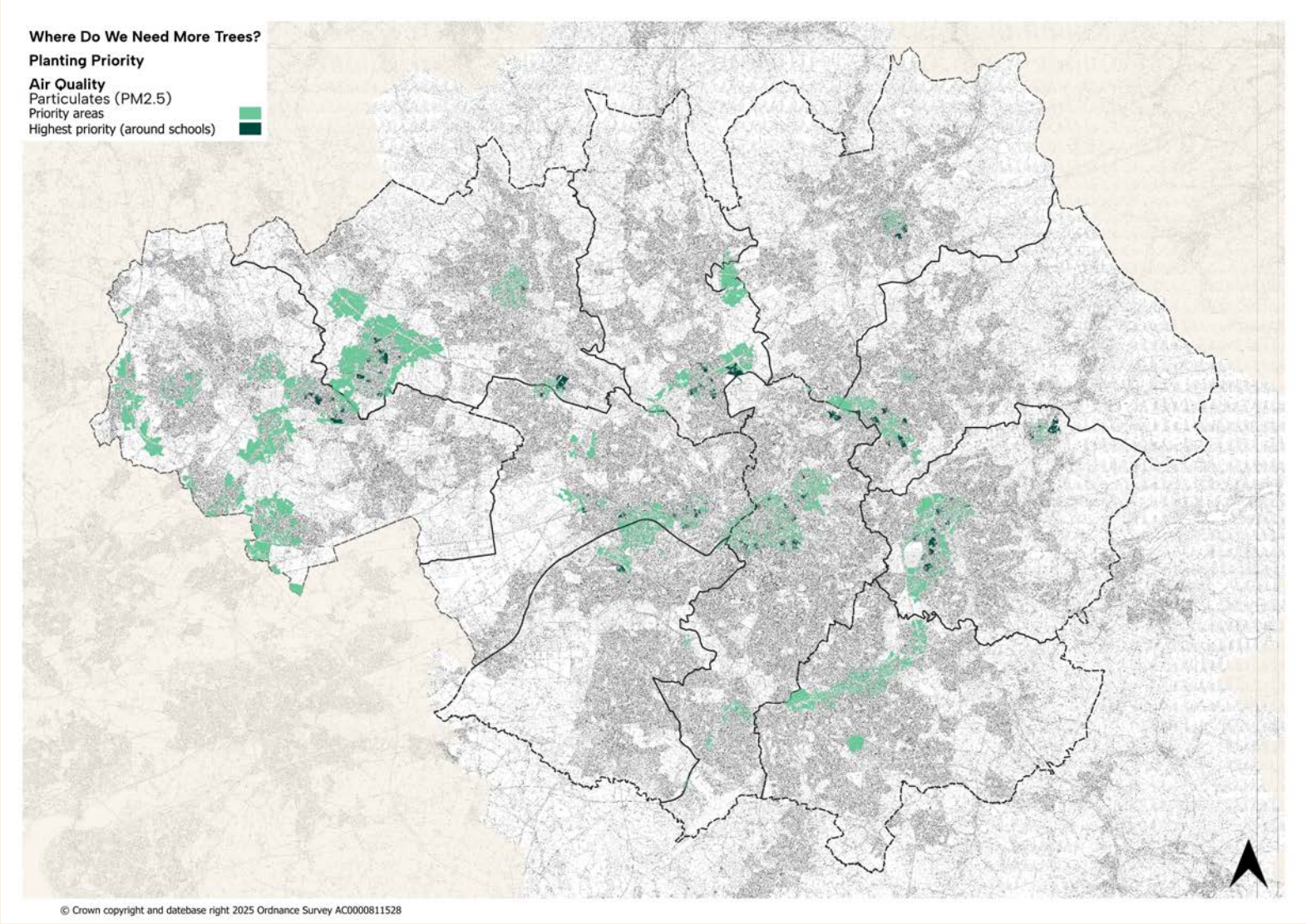
Priority scores for each parcel of land are summed to highlight those parcels where tree planting could respond to the greatest need for tree benefits.



Air quality

Map 5: particulate matter

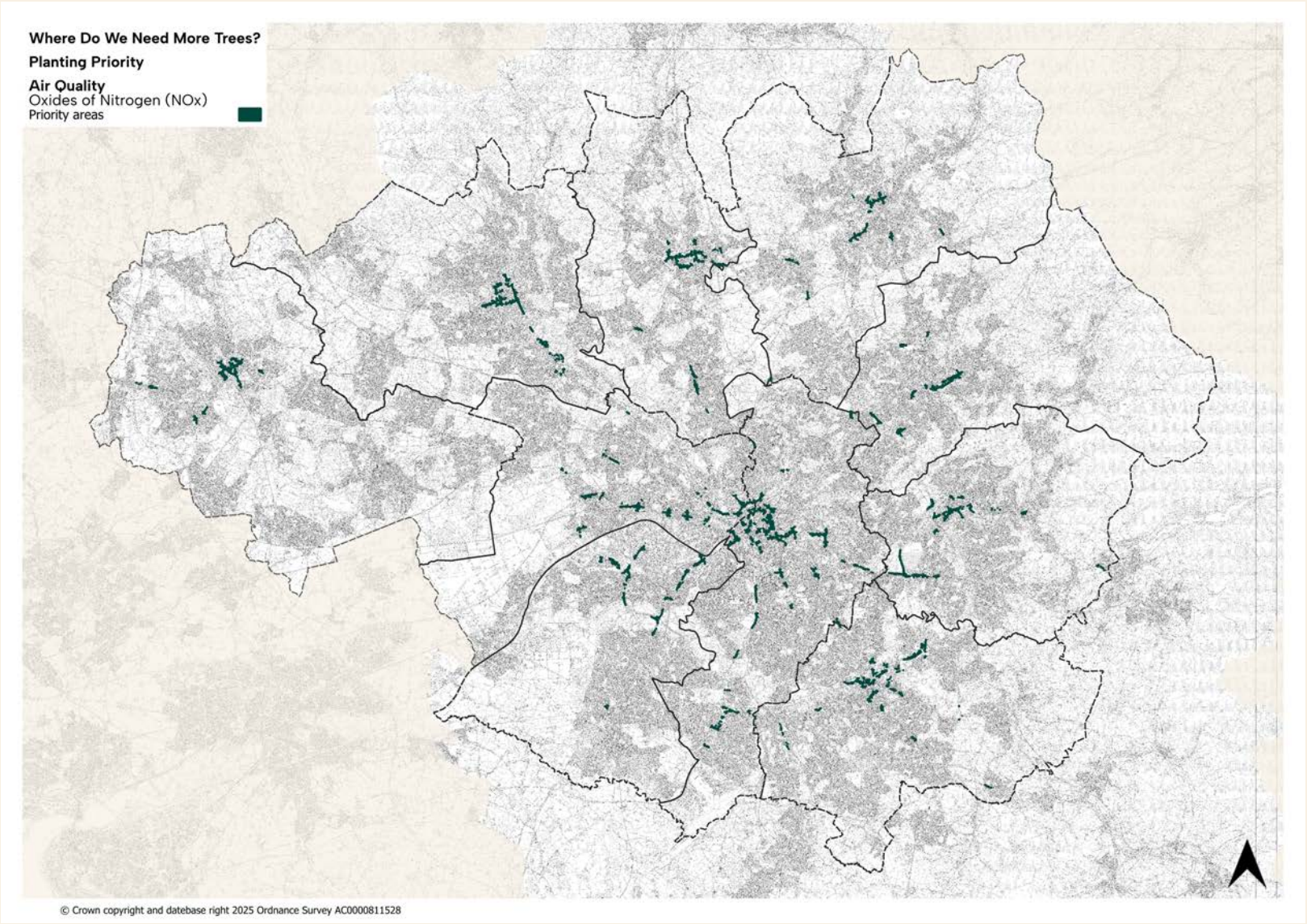
Although annual mean exposure rates for PM2.5 are within UK legal limits, particulates from exhausts are exceeding WHO safety guidelines (10ug) and contributing to respiratory issues in several areas across Greater Manchester. Planting trees and hedges in areas with highest particulates (PM2.5) will help to reduce the particulate loading in the air and carefully designed planting could reduce exposure to harmful pollutants. Plantable locations close to schools have been given a higher weighting to reflect the higher priority of protecting children from poor air quality.



Air quality

Map 6: nitrogen dioxide NO_x

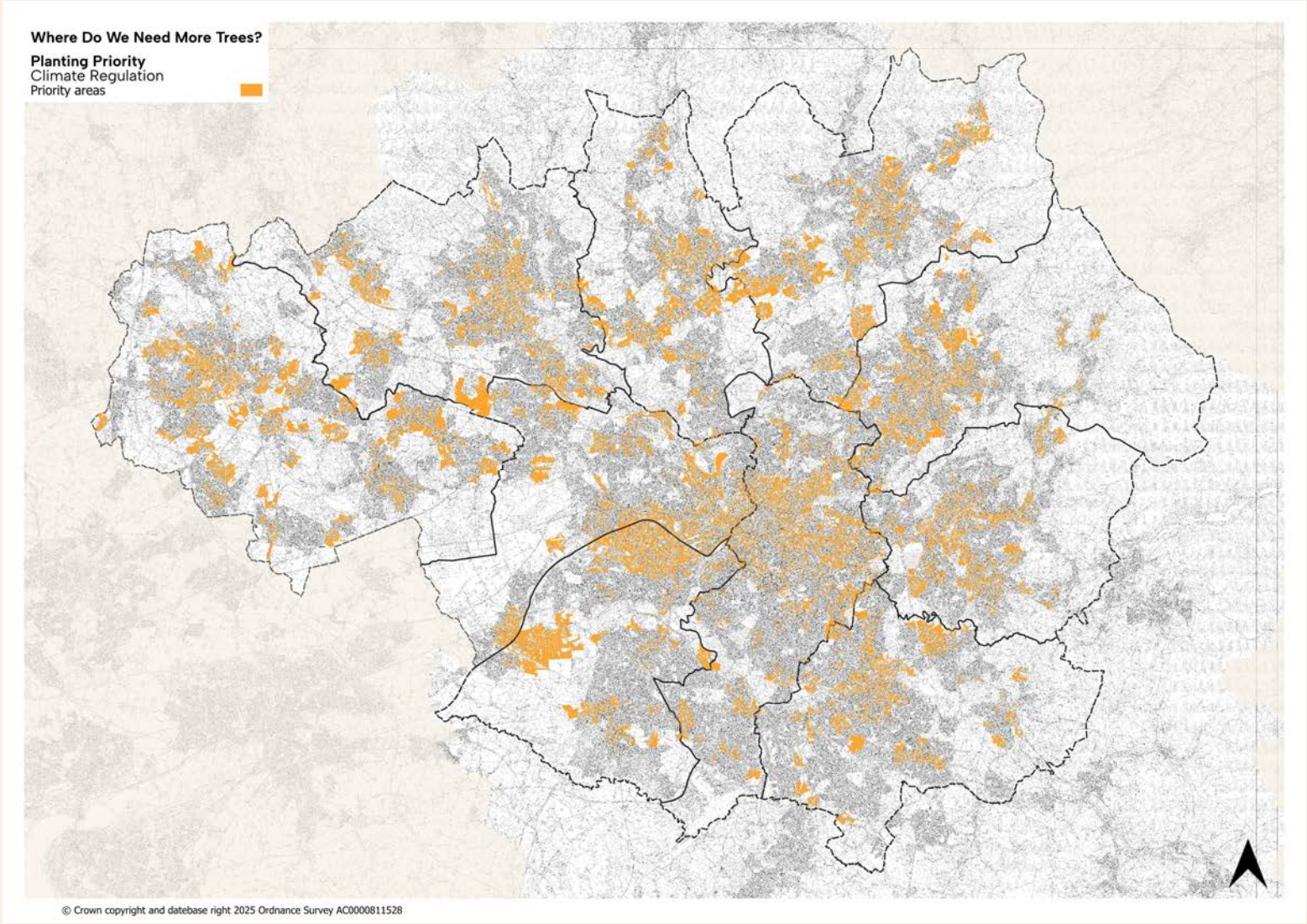
In Greater Manchester, nitrogen dioxide (NO_2) levels exceed legal limits in several areas, particularly near major roads and motorways. A significant number of monitoring locations, including many in Manchester city centre and near the M60 ring road, have recorded NO_2 concentrations above the 40 micrograms per cubic meter limit.



Climate regulation

Map 7: cooling

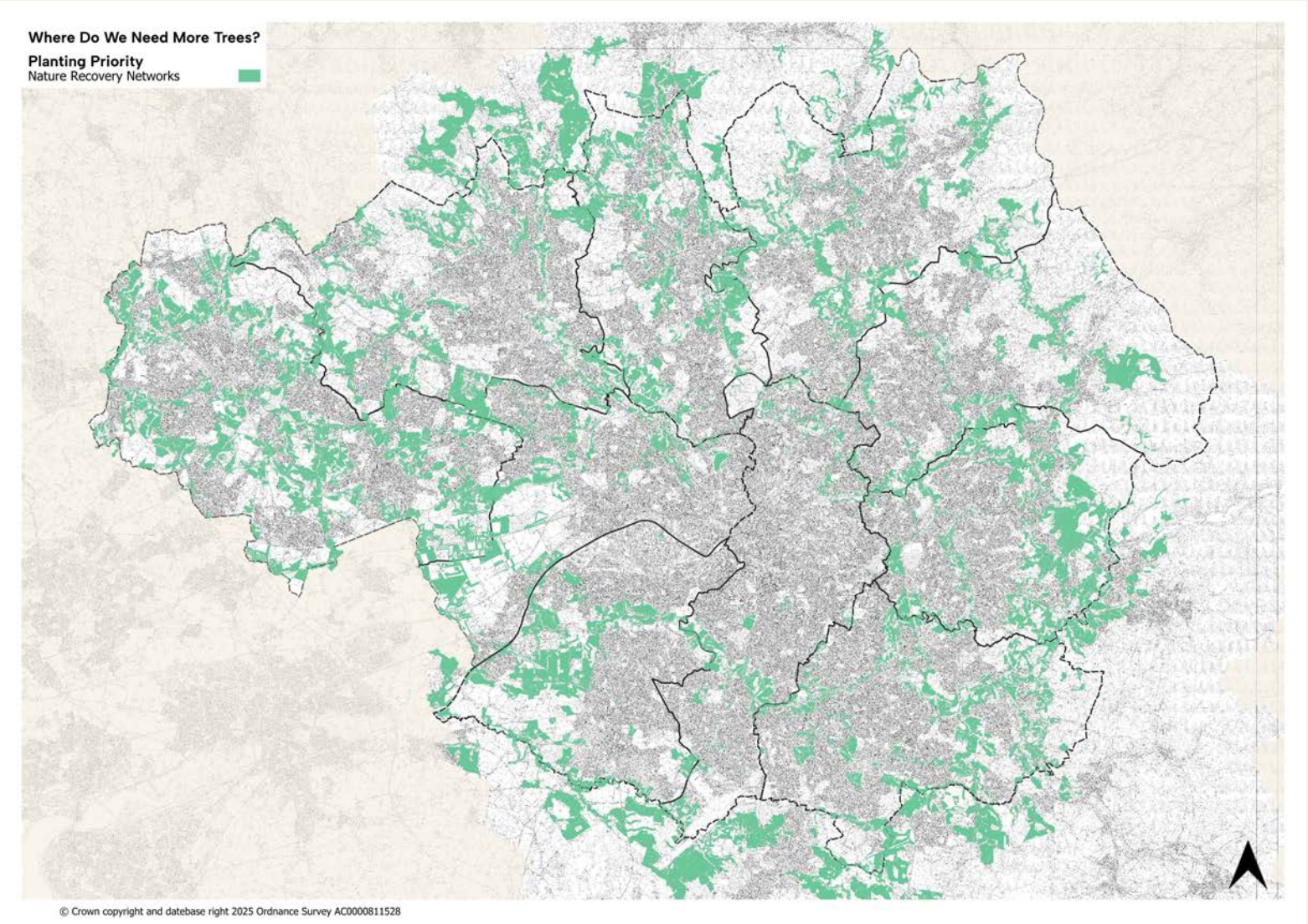
Summertime temperatures are expected to rise in the coming years, resulting in heat stress, and increased mortality amongst vulnerable groups. The most susceptible areas are those with the lowest proportions of natural surface, where there are the highest densities of people living and working. Planting trees, particularly into hard surfaces, provides additional shade and cooling and can reduce temperatures.



Enhancing wildlife and habitat

Map 8: nature recovery networks

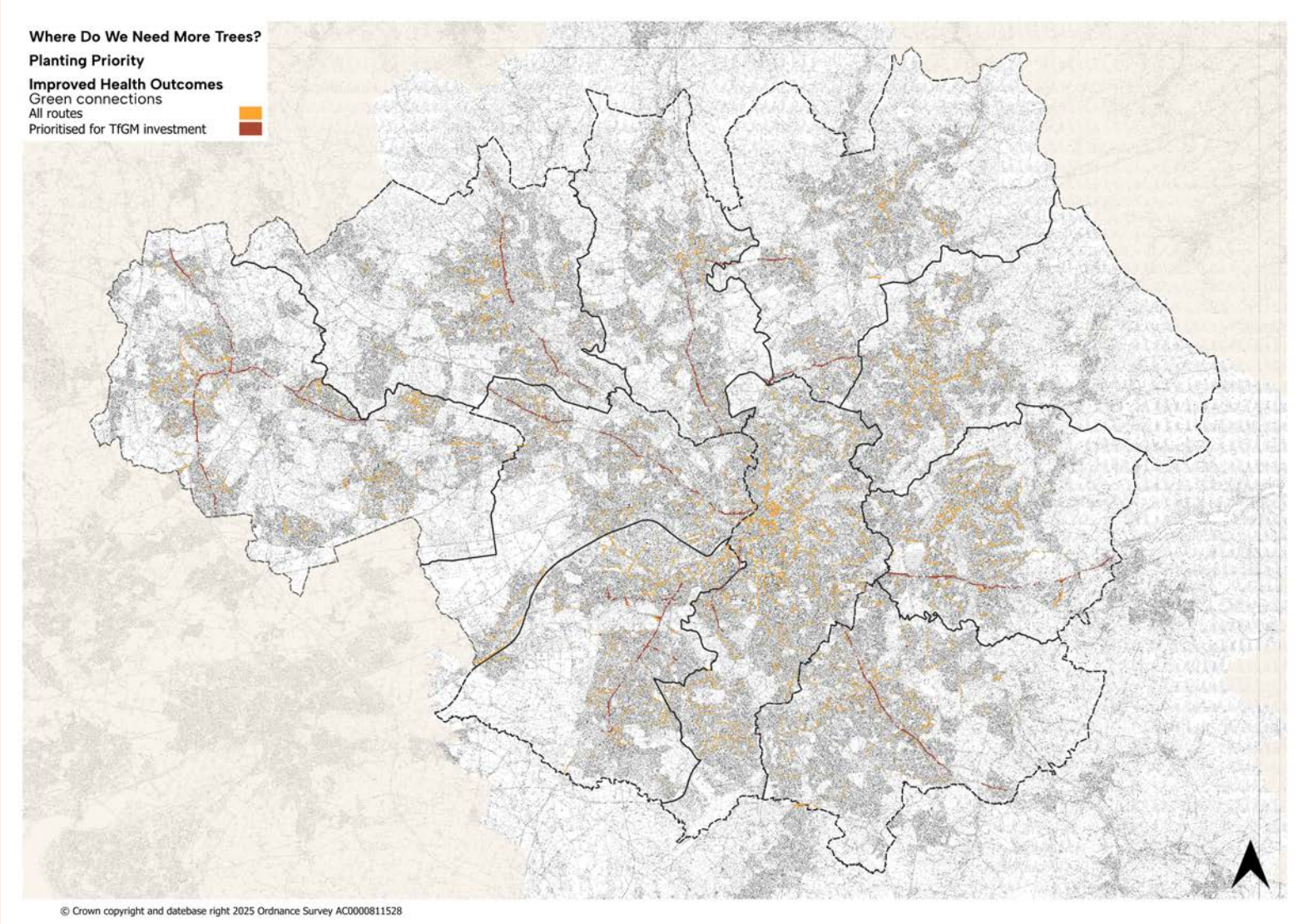
During 2024/25, City of Trees supported Greater Manchester Combined Authority in developing its Local Nature Recovery Strategy and mapping out nature recovery opportunity areas for woodland habitats – where action to enhance, restore or create woodland habitat might be possible and most beneficial to deliver on the Lawton recommendations, and more effectively link protected sites and landscapes, as well as urban green and blue infrastructure. New woodlands and trees beyond existing woodlands and expanding existing woodlands, particularly in urban areas, can reduce edge effects, reduce the worst impacts of habitat fragmentation, and help build nature recovery networks.



Improved health outcomes

Map 9: green connections

Tree planting can enhance hard routes, mark segregation and alter driver behaviour. Transport for Greater Manchester's Bee Network delineates routes either used commonly by cyclists or pedestrians to travel around Greater Manchester that require a level of design intervention to improve cycling and walking. These then present opportunities for incorporating sensitive planting to enhance the routes, make them more attractive as active travel corridors.

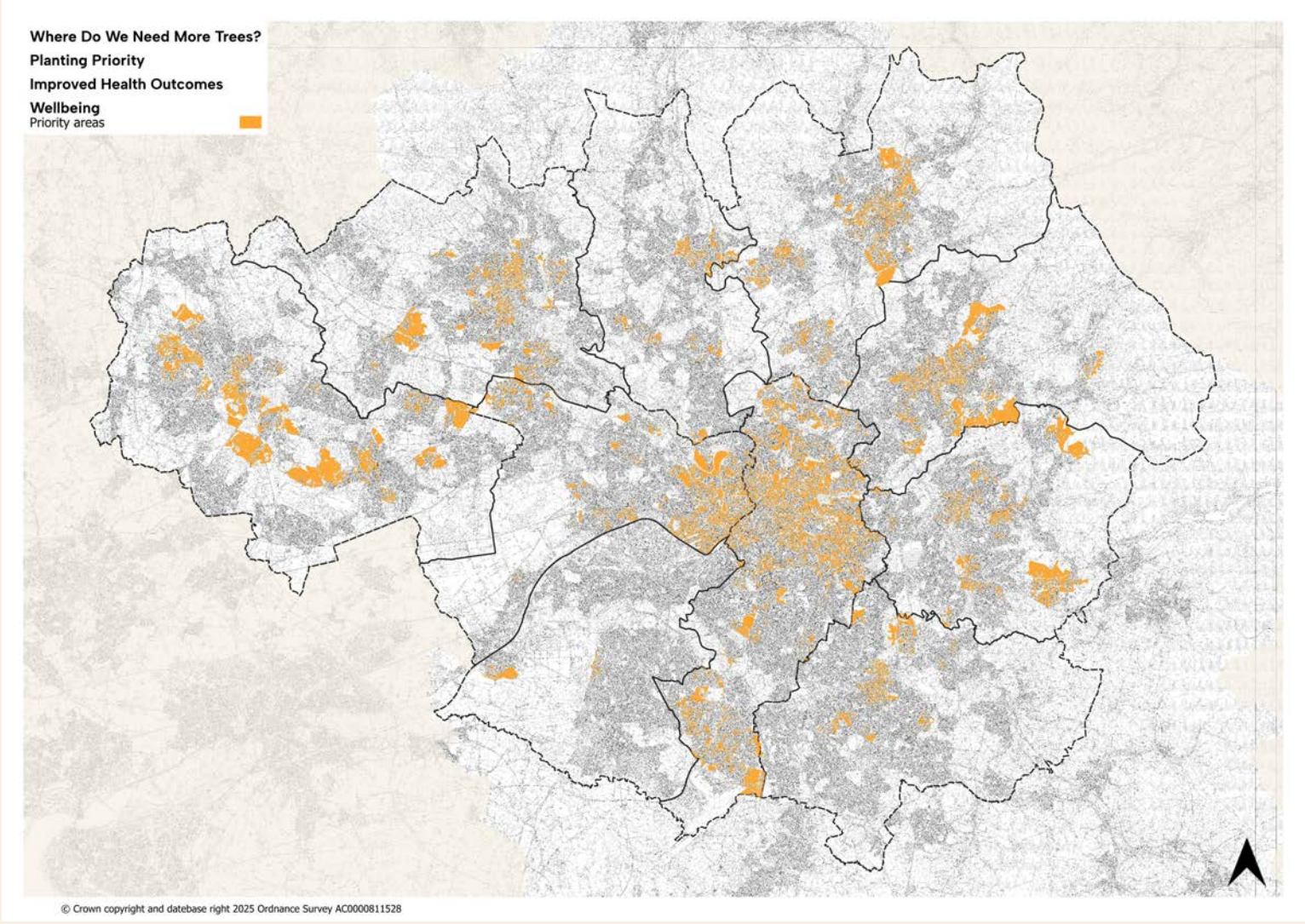


Improved health outcomes

Map 10: wellbeing

Having access to greener streets and wooded areas to walk or engage in nature-based activities can help people relieve stress and anxiety, recover more quickly from illness, and promote wellbeing. Whilst many complicated factors determine a person's mental health and wellbeing, low income, low educational attainment, and prevalence of long-term health problems are known indicators. The English Indices of Multiple Deprivation provides a rating for each neighbourhood based on income, education, employment and health.

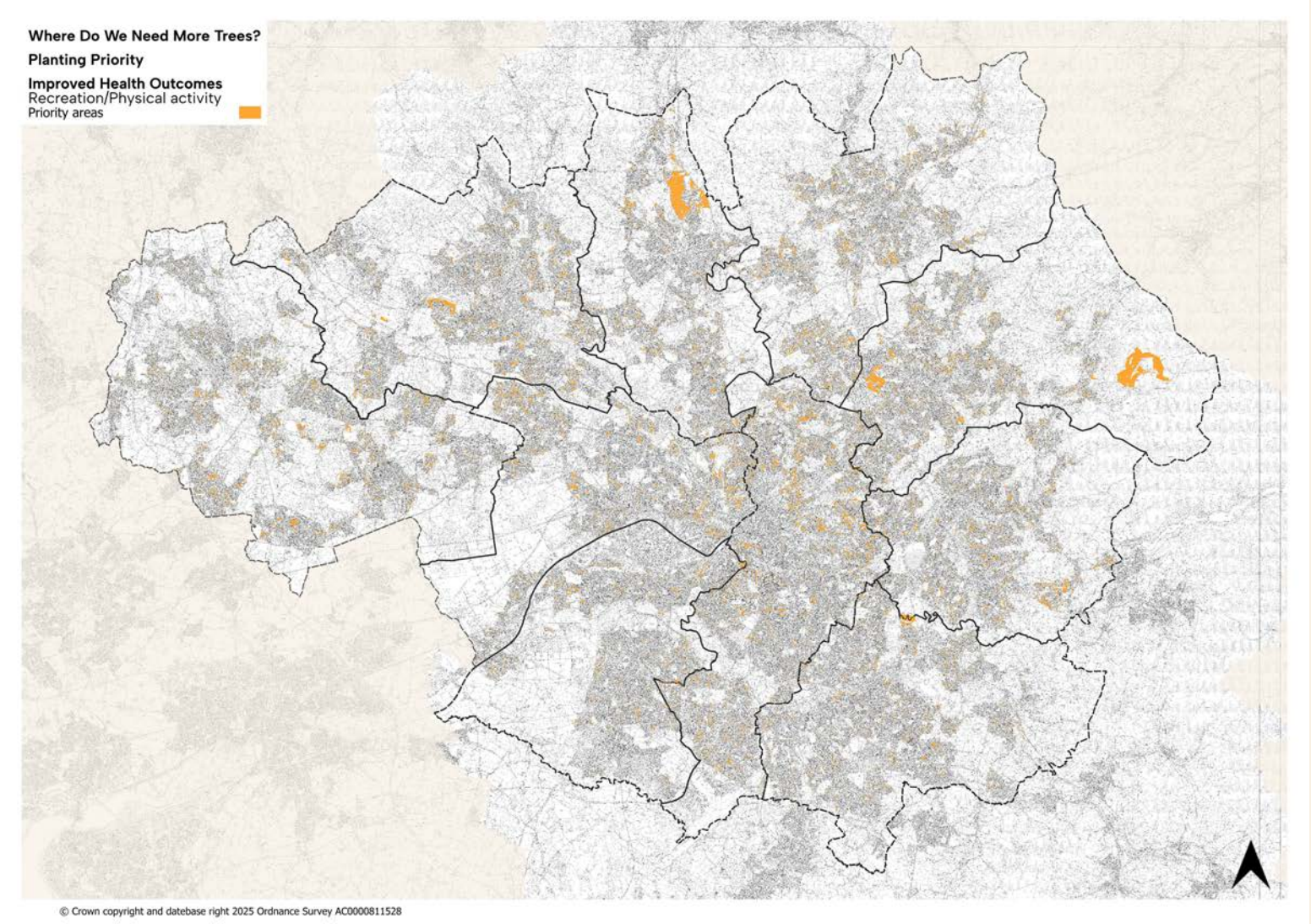
Evidence shows that taking part in volunteering such as Citizen Forester, improves wellbeing through physical activity, social cohesion, time in nature, learning new skills and giving back to the community of Greater Manchester.



Improved health outcomes

Map 11: recreation and physical activity

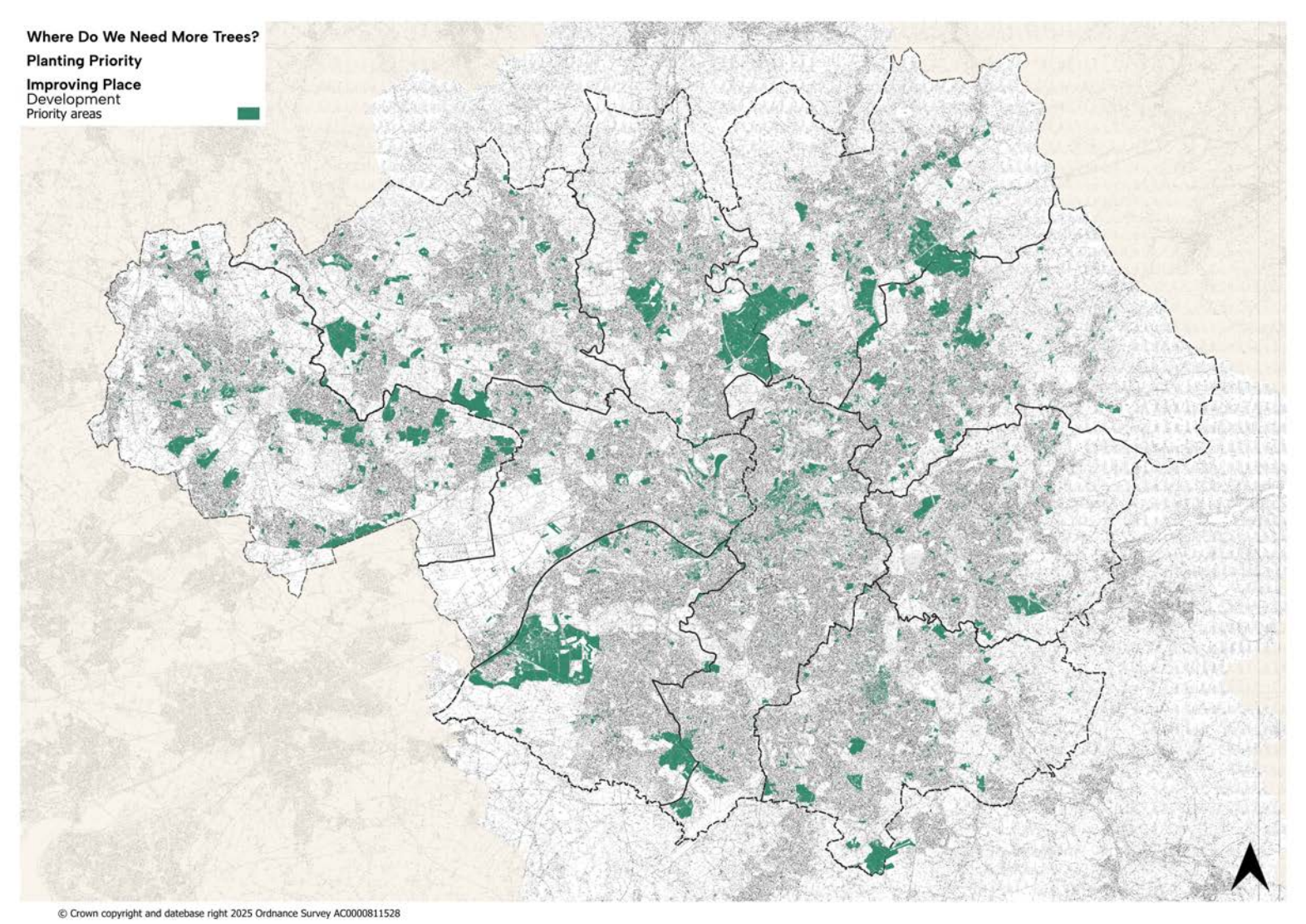
Where residential properties are located near to greenspaces and woodlands, there are greater opportunities for residents to be engaged in leisure and recreation and derive the associated benefits for physical and mental health, and wellbeing. Access to natural green space standards (ANGST) specify that people should have access to greenspace within 300 meters of their homes.



Improving place

Map 12: development

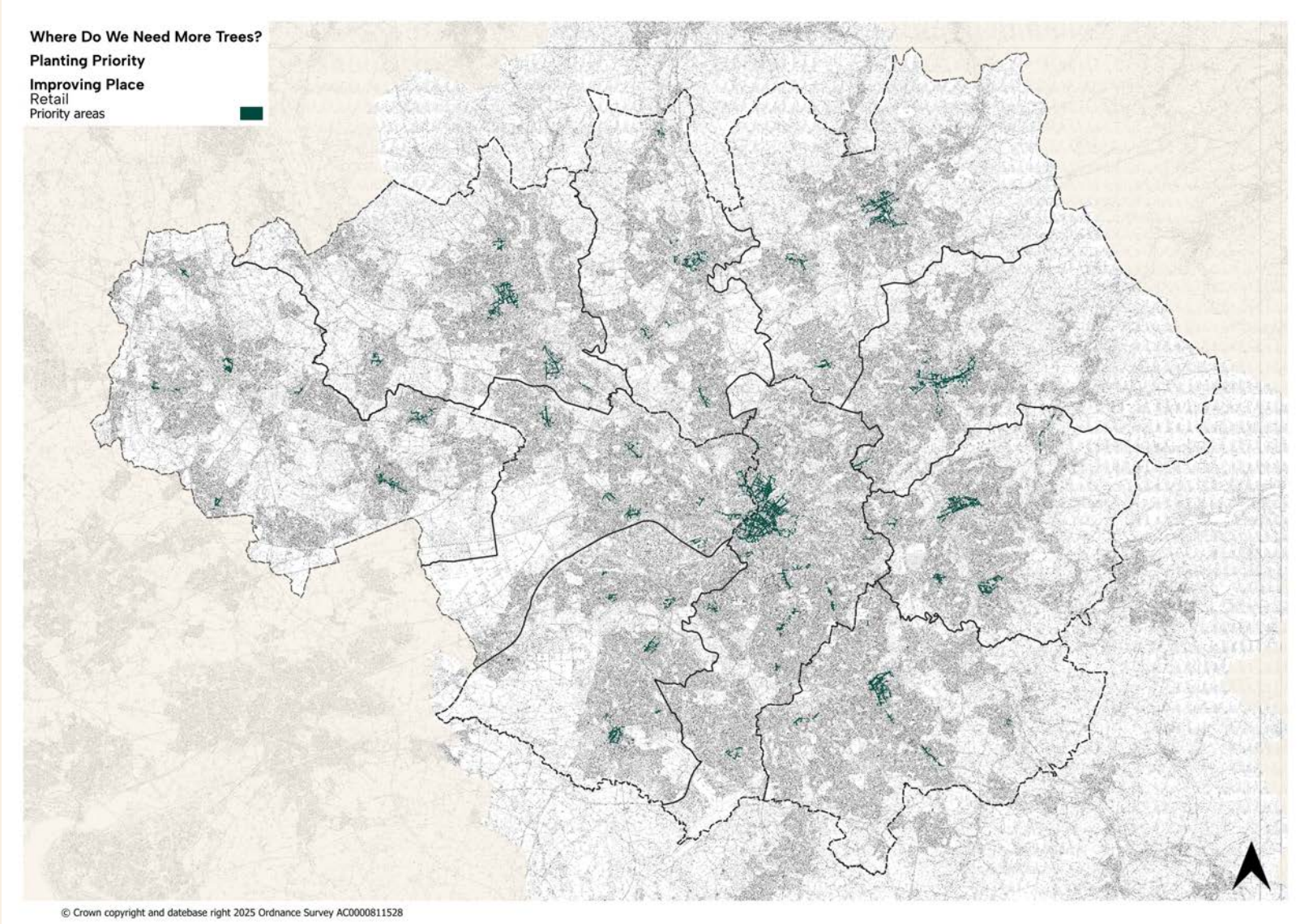
Incorporating tree planting into new development plans should be made priority from the outset.



Improving place

Map 13: retail

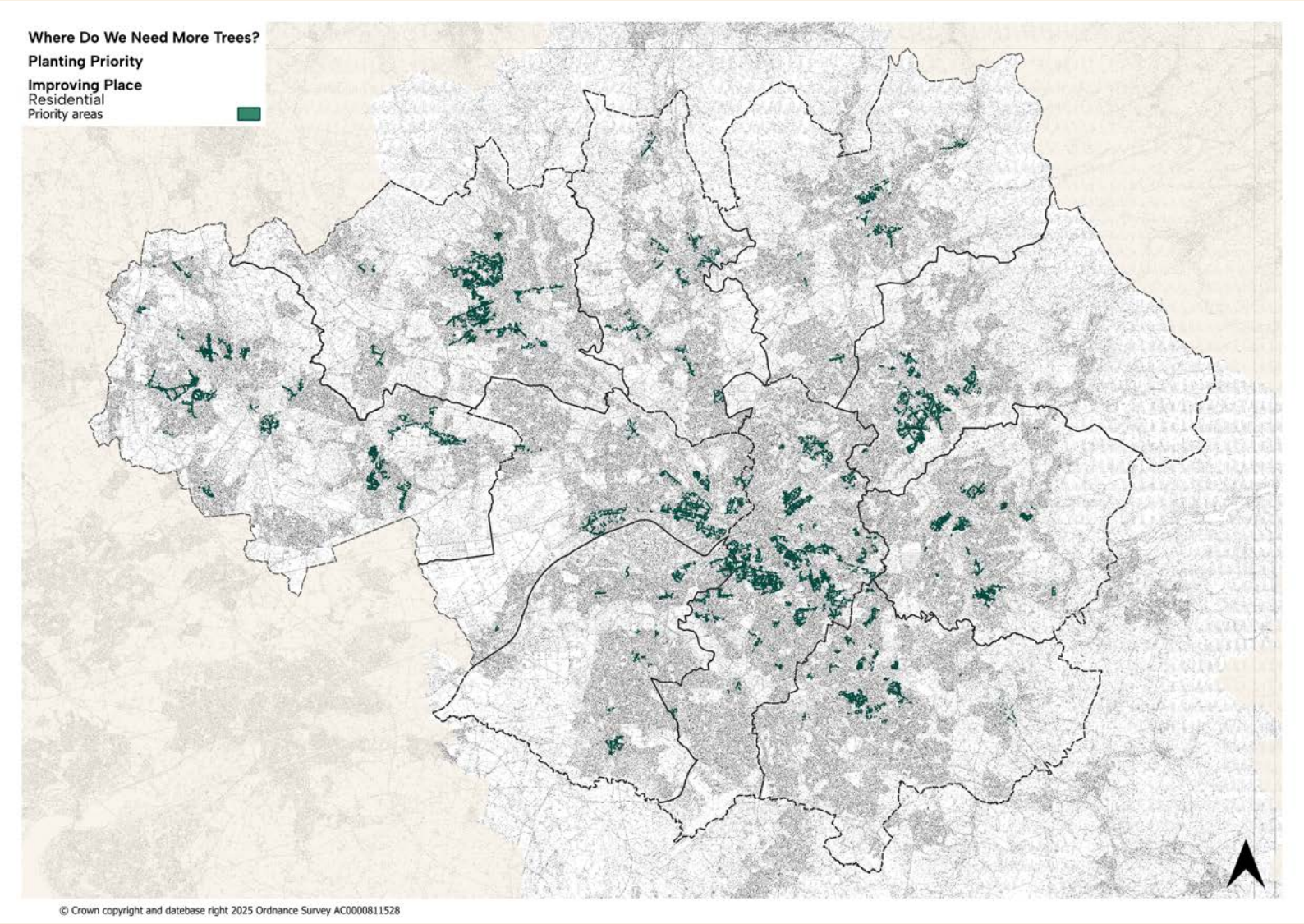
Tree-lined streets are more attractive to potential shoppers and result in a ‘linger’ effect.



Improving place

Map 14: neighbourhoods

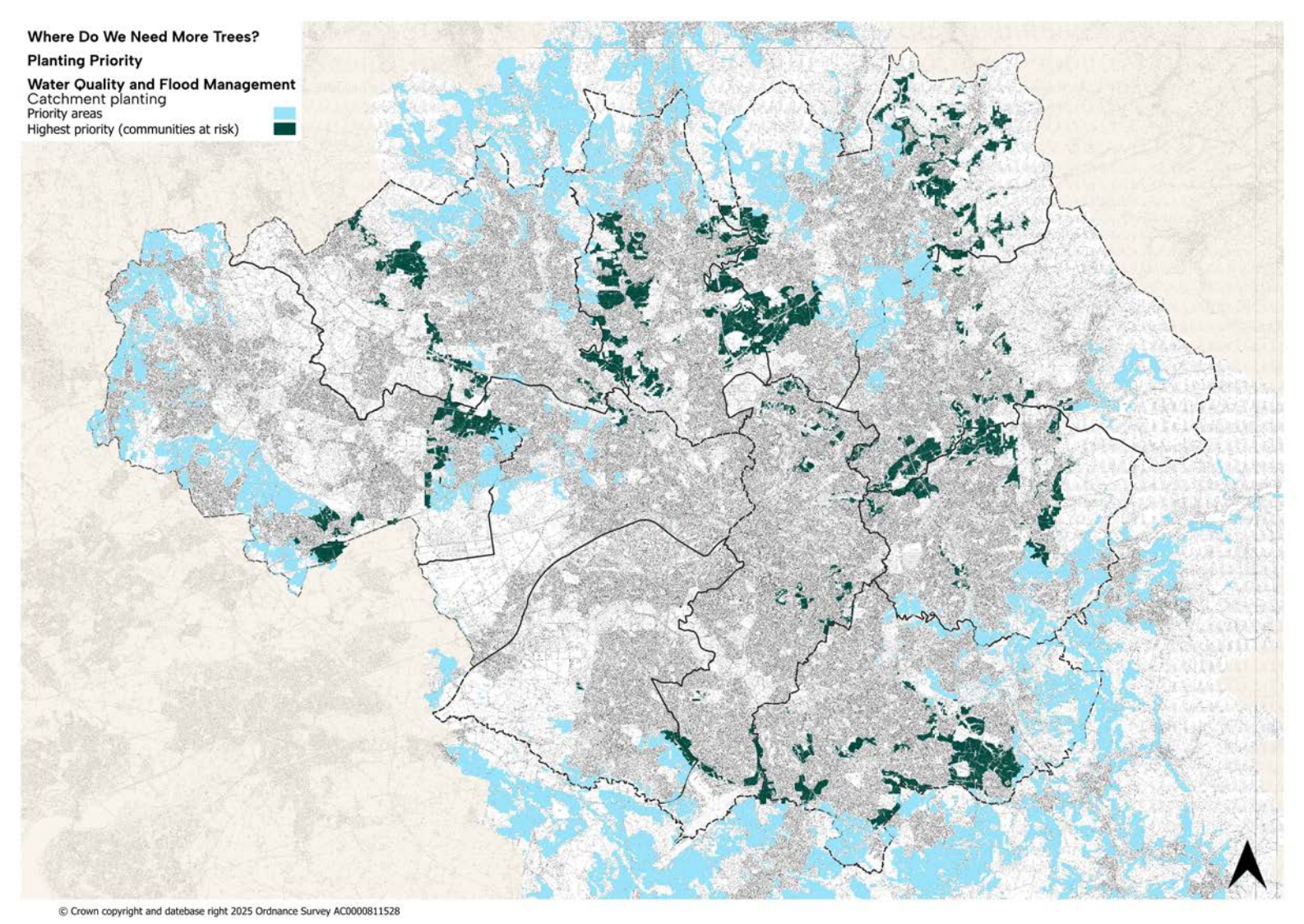
Tree-lined residential streets create more desirable, sustainable neighbourhoods.



Water quality and flood management

Map 15: catchment planting

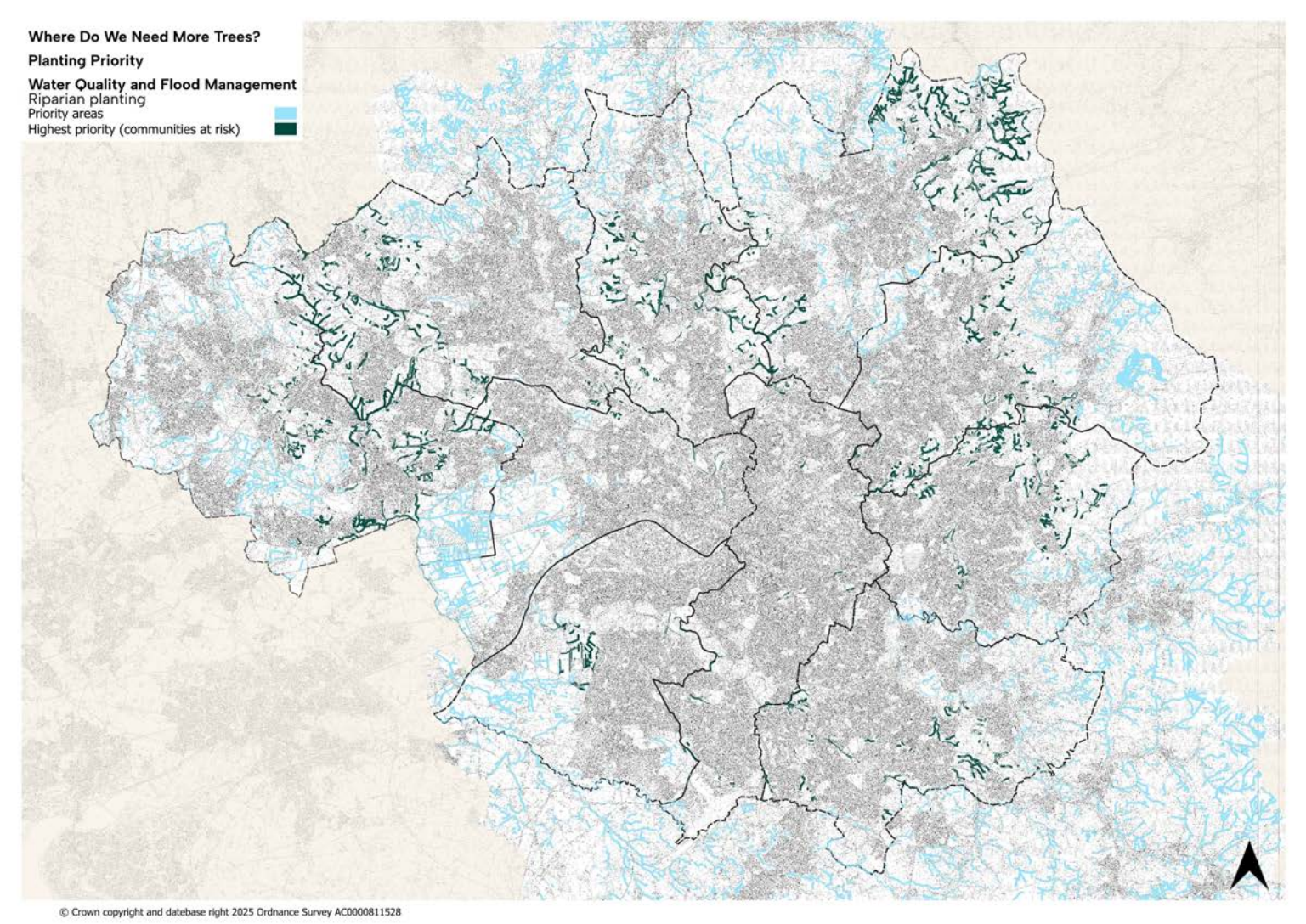
Areas of slow draining soils soils, where tree roots could increase permeability and reduce surface run-off. Priority is given to parcels upstream of communities identified as at risk of flooding, where tree planting could significantly meet this need.



Water quality and flood management

Map 16: riparian planting

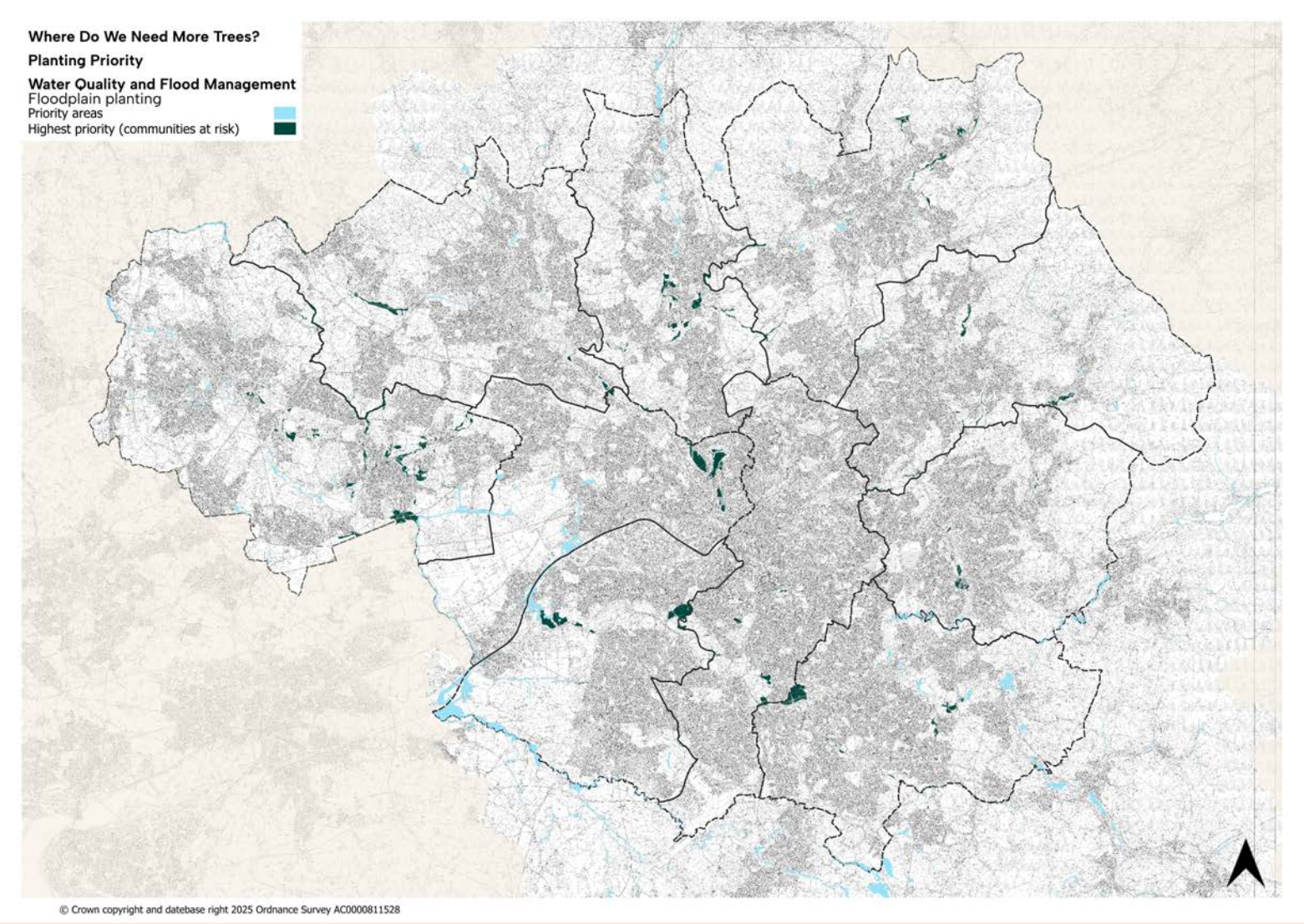
The main role of riparian woodland from a natural flood management (NFM) perspective is to slow down and hold back flood flows within watercourses, as well as to reduce sediment delivery and bankside erosion. This draws on the higher hydraulic roughness presented by riparian woodland in the form of trees, shrubs and deadwood, including associated large woody structures within water channels, which deflect and encourage out-of-bank flows. Priority is given to parcels upstream of communities identified as at risk of flooding, where tree planting could significantly meet this need.



Water quality and flood management

Map 17: floodplain planting

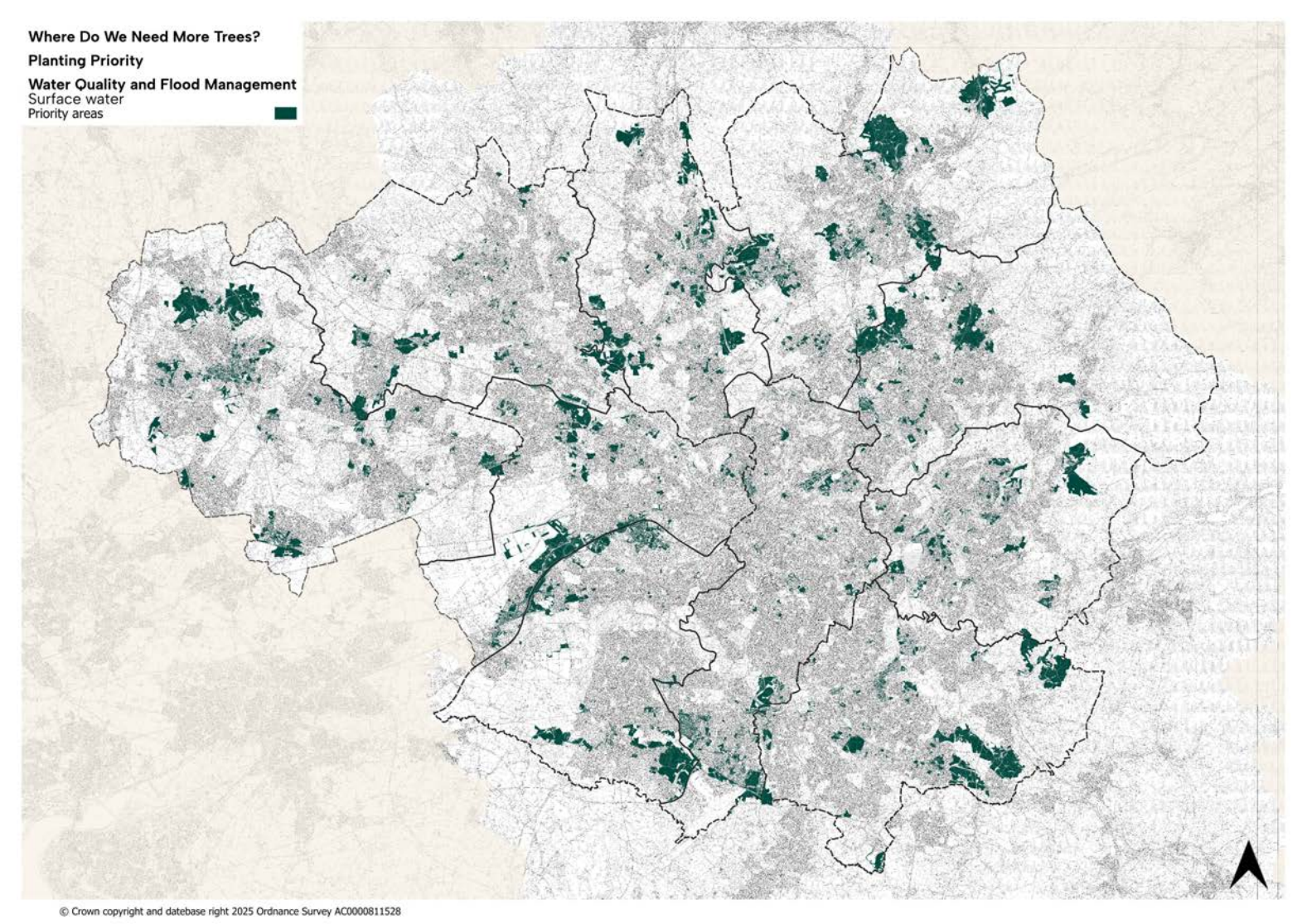
The main role of floodplain woodland from a natural flood management perspective is to slow down and hold back flood flows within the floodplain, as well as to enhance sediment deposition and thereby reduce downstream siltation. Priority is given to parcels upstream of communities identified as at risk of flooding, where tree planting could significantly meet this need.



Water quality and flood management

Map 18: surface water

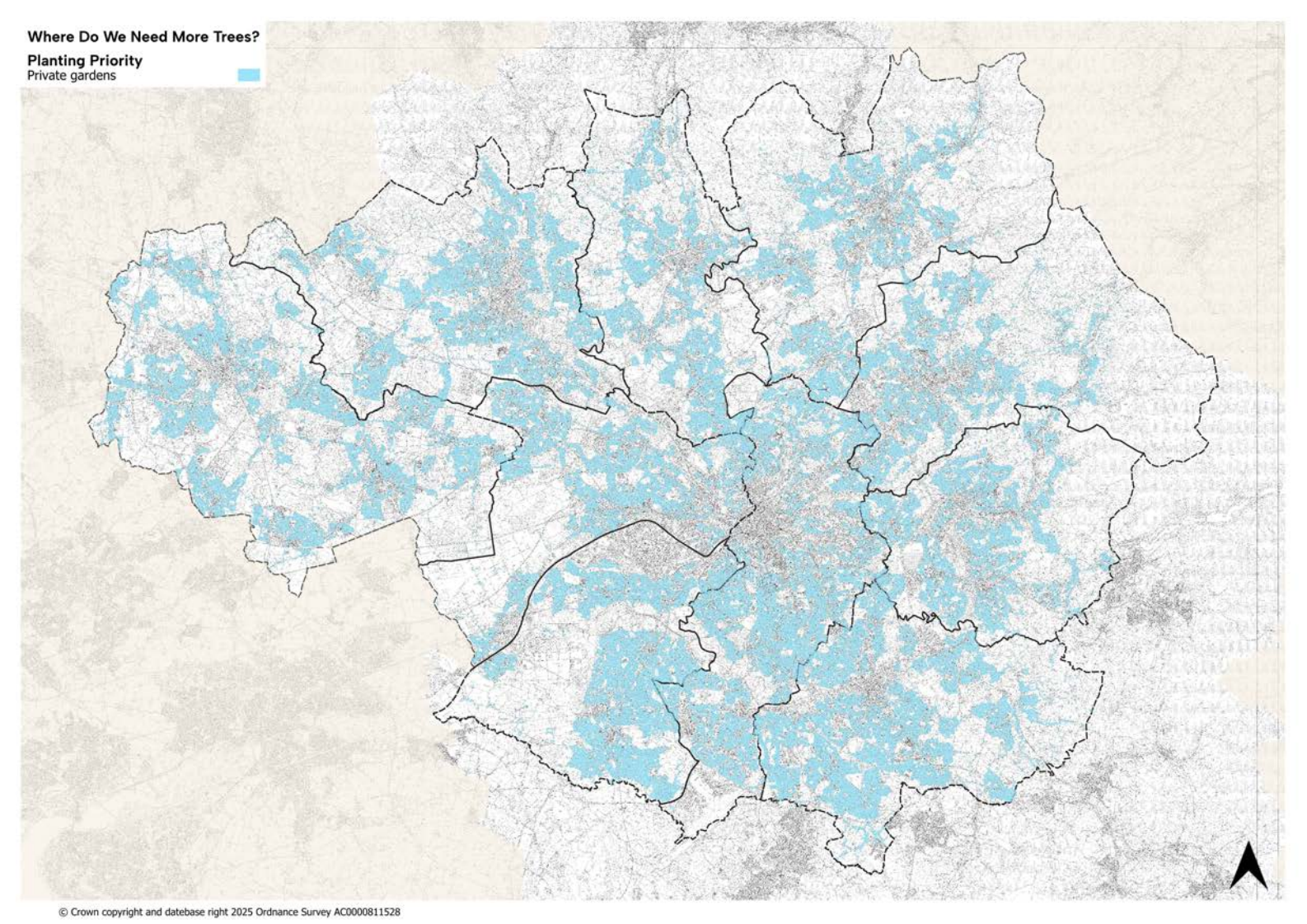
Surface water flood risk is widespread in the city, but catchments tend to be small, so scope exists for local tree planting in soft and hard landscapes to intercept rainwater and reduce likely impact of surface water flooding, particularly if linked to sustainable drainage systems (SuDS). Frequency and severity of hydraulic failures of the sewer network, resulting in sewer flooding, could be greatly reduced if surface water can be intercepted above ground.



Water quality and flood management

Map 19: private gardens

These spaces make up (22,276.6ha) 17% of Greater Manchester's total area (127,640.9ha) and so present a unique opportunity for engaging residents on projects involving continued management as greenspace, (as opposed to paving), planting additional trees, and good management of existing trees. These have been included to illustrate the scale of opportunity for further enhancement of the urban forest.



Part Five
Conclusion

5.1 Conclusion

We know trees face urgent challenges; Greater Manchester's urban forest (as with trees across the UK) face several immediate challenges, which require immediate action to address.

The evidence gathered by City of Trees provides an unmatched insight into the form and function of our urban forest and provides solid evidence that quantifies some of their numerous benefits. It shows that trees of large stature and large leaf (while not the most common) do the heavy lifting in terms of provision of benefits. The data also show us that over the coming decades, we will lose some of our forest canopy to age and/or disease and so proves we urgently need to plant the veteran trees of the future.

We must strive to get the most from the trees we plant now and target tree planting to tackle specific issues. The spatial data within the Forest Plan can guide and direct our work to where it is needed most.

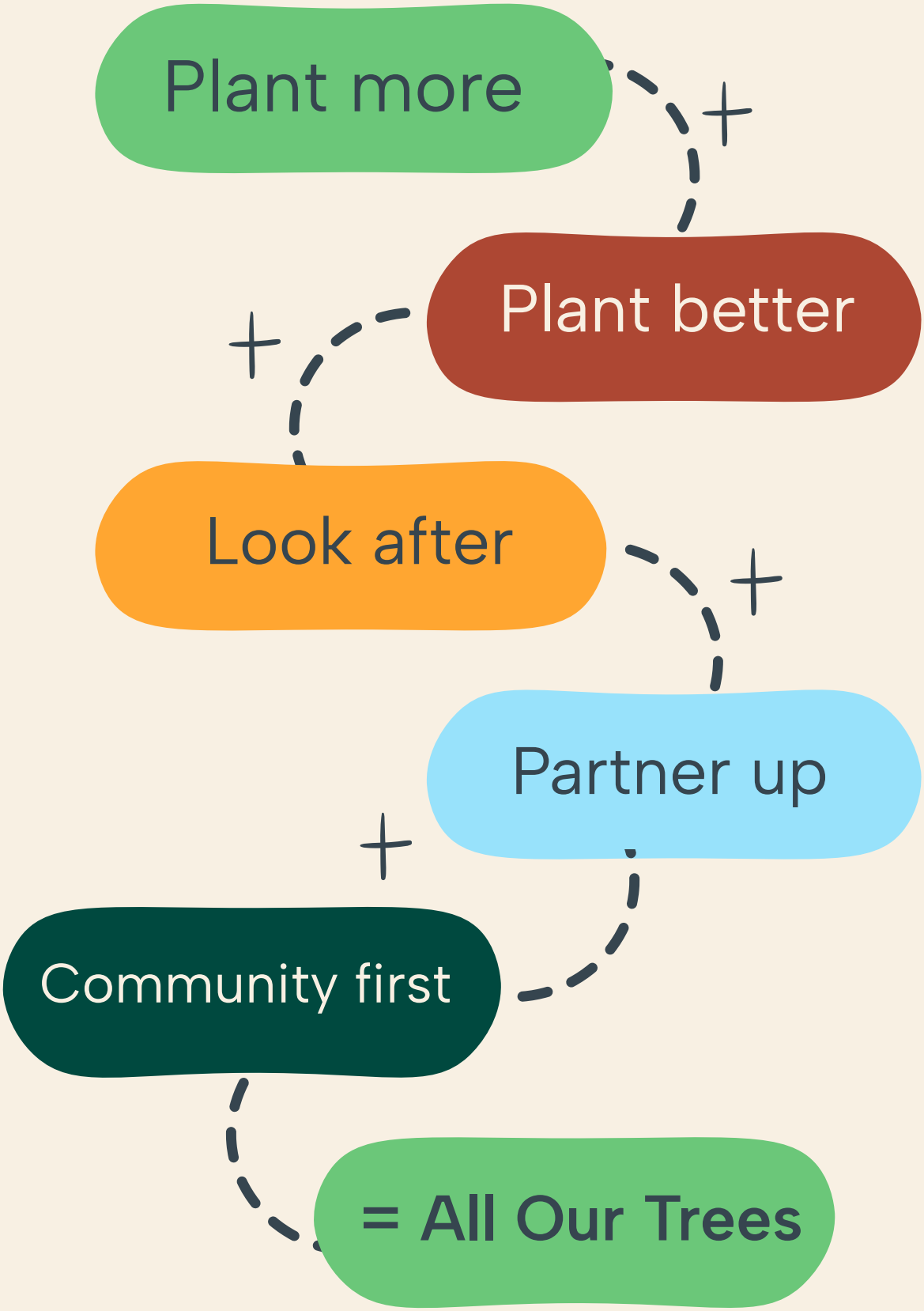
In addition, trees that are planted well in the first place and maintained properly are less likely to present problems later. Ensuring that all our trees are planted and maintained according to well established standards (as a minimum, new planting should follow The UK Forest Standard) should be a priority for Greater Manchester. City of Trees is well placed to provide this guidance and will continue to be a resource for all involved in managing and protecting our urban forest.

Strong partnerships between City of Trees and all Greater Manchester's local authorities and landowners will be vital to deliver this plan, likewise between City of Trees and all public and private sector organisations who have a part to play.

As one of England's 15 Community Forests and the tree and woodland organisation for Greater Manchester, we have a special role to play; forging links between the public and private sector, helping to unlock investment for resilience and prosperity, developing knowledge sharing skills, providing pathways to employment and providing tangible ways for community involvement.

Ultimately, City of Trees has people at its heart. Trees and woodlands are a vital component in creating a city-region that supports the people of Greater Manchester to live a good life.

We invite everyone to be part of the mission to plant and care for all our trees.


Plant more
+
Plant better
+
Look after
+
Partner up
+
Community first
= All Our Trees

Appendix 1: local and regional policy context

Places for Everyone
The long-term, joint development plan of nine Greater Manchester districts for jobs, new homes, and sustainable growth.

The Forest Plan provides supplementary, detailed information to the policies contained in the plan, which recognises that trees and woodland are vital elements of the green infrastructure network – fulfilling the wide range of functions as described above, but also highlights their major role within the urban environment, softening otherwise harsh environments, affording shelter from wind, providing contrast to the scale of tall buildings and creating pleasant public spaces at street level.

Local Nature Recovery Strategy: Nature For All
Greater Manchester's Local Nature Recovery Strategy sets out a long-term vision to work towards a resilient network for nature across Greater Manchester, by connecting and enhancing wild spaces so that people and nature can thrive.

The Forest Plan provides crucial data and details how we might achieve the common goals of increasing and enhancing tree and woodland cover. The Forest Plan incorporates the strategy's spatial priorities for biodiversity enhancement.

Greater Manchester Five-Year Environment Plan
Sets out our long-term environmental vision to be carbon neutral by 2038 – and the urgent actions we all need to take in the next five years to help achieve this, which include carbon sequestration through increased tree planting.

Individual district local plans
All ten districts within Greater Manchester are producing their own local plans which will contain policies specific to each district, addressing local needs and circumstances. The local plans will set out the vision for future development in each borough and will be used to help make decisions on planning applications and other planning related matters.

The local plans will also set out other key strategic needs, including transport and the regeneration of towns and neighbourhoods and addressing the social, environmental and economic challenges they face.

Each local plan will acknowledge the role that environment plays in creating better, more sustainable and resilient places for people and wildlife. The local plans will set out the district's objectives for protecting, enhancing and increasing their networks of green and blue spaces. Within these objectives' targets will be a set of references made to the district's own underlying tree and woodland strategies for managing and increasing tree cover.

Greater Manchester Strategy – Our People, Our Place
This outlines Greater Manchester's ambitions for the future of the city-region for the next decade and covers health, wellbeing, work and jobs, housing, transport, skills, training and economic growth.

Greater Manchester Resilience Strategy 2020- 2030
Greater Manchester's strategic framework focused on building the region's capacity to cope with, and recover from, various challenges and future emergencies. The document reflects the Forest Plan's priorities and recognises the role of trees and woodlands in managing surface water and flood risk.

A selection of other local and regional strategies which have relevance to and synergies with the Forest Plan are listed below:

- Greater Manchester Infrastructure Framework 2040
- Local green infrastructure plans and strategies
- Flood risk and water management strategies
- 5 Year Environment Plan – natural capital approach
- Greater Manchester Transport Strategy
- Clean Air Strategy
- Natural capital investment plan

Appendix 2: national and international policy

The UK adopted the United Nations Sustainable Development Goals (SDGs) in 2015, committing to 17 goals which aim to 'end poverty, protect the planet and improve the lives and prospects of everyone, everywhere' – and which influence our national policy context.
Nationally, Community Forests deliver on many of these goals: SDG 3 Good Health and Wellbeing; SDG 8 Decent Work and Economic Growth; SDG 10 Reduced Inequalities; SDG 11 Sustainable Cities and Communities; SDG 13 Climate Action; and SDG 15 Life on Land.

The 25 Year Environment Plan 2018 (Defra) sets goals for improving the environment within a generation – This plan responds to legislation from the Environment Act 2021. It uses the natural capital framework to frame goals for the next 25 years.
It reiterates Government support for Community Forests "so that they can play a leading role in urban tree planting", create and improve green infrastructure in towns and cities across England (p. 48), and connect young people with nature (p. 76).

The National Planning Policy Framework 2023 (DLUHC) reflects Government targets and influences all local planning documents in England. (This framework responds to legislation from the Levelling-up and Regeneration Act 2023).
It acknowledges Community Forests for improving the environment, upgrading landscape and providing for recreation and wildlife (paragraph 151, p. 44) and states that "an approved Community Forest Plan may be a material consideration in preparing development plans" (paragraph 146, p. 44). The supporting National Planning Practice Guidance 2023 states that new development within Community Forests should be in accordance with their approved Forest Plans, and contribute to the creation and emerging character of the forests.

The Environment Act 2021 is Government legislation to improve air and water quality, tackle waste, increase recycling, halt the decline of species, and improve our natural environment.
There are 13 environmental targets set in this legislation, including the requirement for local authorities to develop Local Nature Recovery Strategies (LNRS) and the mandate for developments to achieve at least 10% Biodiversity Net Gain. England's Community Forests are each working closely with their local LNRS strategy development teams to ensure their new forest plans and local LNRS are aligned to support and strengthen each other.

The Climate Change Act 2008 (revised 2019) sets a legally binding target for the UK to reduce greenhouse gas emissions to 'net zero' by 2050.
It requires the Government to regularly assess risks of climate change to the UK and set objectives to adapt to these changes. The Nature for Climate Fund and Programme announced in the March 2020 is a practical expression of this.

The Net Zero Strategy 2021 (DESNZ & BEIS) is a long-term plan for a transition over the next three decades to achieve net zero by 2050.
A key commitment was to treble woodland creation rates from 2021 to meet the UK's overall target of 30,000 hectares of woodland planted annually by 2025. England's Community Forests are a key national delivery partner for this target, contributing 35% of all Government funded trees planted since 2020.

The England Trees Action Plan 2021-2024 (DEFRA) outlines the Government's vision for our treescape by 2050 and beyond, and provides a strategic framework for implementing the Nature for Climate fund.
The plan supports tree planting through Trees for Climate funding, provided to England's Community Forests to create 6000 hectares of new woodland by 2025, which is "planted and managed by, and for the benefit of, local communities, based on long-established Forest Plans, recognised by our National Planning Policy Framework" (p. 31).

The Green Infrastructure Framework 2023 (NE) highlights that accessible, high-quality woodlands support people's health and wellbeing, reconnect people with nature, and increase community cohesion.
It also acknowledges the value of woodlands for carbon storage and flood management. It provides a framework for Local Authorities to combat declining health along with social care costs, and Community Forests play a key delivery role for this by creating opportunities for people, trees, and nature to interact positively.

The Woodland Access Implementation Plan 2023 (DEFRA) commits to ensuring that safe and appropriate public access is a feature of as many woodlands as possible, supporting new woodland creation and the protection of existing woodlands.
Community Forests are acknowledged for bringing over half a million more people across the country within 500 metres of a woodland.

The Agricultural Transition Plan 2021–2024 (Defra) aims to renew the agricultural sector and encourages changes towards sustainable farming practices which contribute to national environmental goals.
It supports diversification strategies such as tree and woodland management, restoring habitats and woodland creation (p. 33) and encourages farmers to apply for the appropriate agri-environment and forestry agreements. Community Forests across England are diverse, spanning urban as well as rural settings, and farmers are an integral part of our community landscape.

The National Wood Strategy 2023 (Confor) describes how England's wood-based industries can increase the growing, harvesting and production of timber.
Developed in collaboration with Government, non-governmental organisations and professional membership organisations, it sets out six strategic goals – including increasing the use and lifespan of English wood and developing a skilled workforce. Sustainable forestry is a shared concern for Community Forests and the wider forest industry, and Community Forests in England can support the realisation of this strategy.

The Sustainability and Climate Change Strategy 2022 (Department for Energy Security and Net Zero) sets out the vision for the United Kingdom to be the world-leading education sector in sustainability and climate change by 2030.
This involves educating young people about the natural environment and climate change, to develop an understanding of climate change and foster a greater connection to nature.

Community Forests provide an effective route to the delivery of this vision, and are commended for their outreach work with schools, delivering activities that connect young people with nature (see p.76 of the 25 Year Environment Plan).

Appendix 3: methodology for creating maps

As a starting point, the method used detailed Ordnance Survey data to identify all parcels of land that could potentially be used to plant at least one tree. These parcels were then compared with a series of different spatial datasets that representing areas of greatest need for one of the six environmental benefit types below:

- Air quality.
- Climate regulation – urban cooling.
- Enhancing wildlife and habitat.
- Improved health outcomes.
- Improving place.
- Water quality and flood management.

Parcels of land were scored between 0–2 to indicate the potential opportunity for planting at that location to deliver those benefits and contribute to the reduction in impact of a specific environmental or social pressure. For example, wide pavements present an opportunity to help reduce exposure to oxides of nitrogen, large parcels of land on steep slopes present opportunity to establish catchment woodlands to slow overland flow and reduce particulate transport into headwaters.

A final prioritised planting map was produced by summing the scores for each parcel, to identify where planting trees could deliver the greatest number of benefits.

Not all the benefits we get from trees benefits are mapped, e.g. CO_2, since there is no spatial variation in need for that benefit. Once emitted, CO_2 mixes with the rest of the atmosphere, so it doesn't matter where we remove it from.

City of Trees

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