

TREES FOR NORWICH

A 10-Year Management Plan

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Management Plan

Version control			
Date	Version number	Reason	Author
26/02/2025	V.09		
07/03/2025	V.10	Feedback from Biodiversity team	
19/03/2025	V.11	Feedback from Executive Director	
08/05/2025	V.12	Feedback from Biodiversity Team	
09/05/2025	V.13	Issued to CEEP	
02/09/2025	V.14	Amends after CEEP	
03/09/2025	V.15	FINAL VERSION	
24/09/2025	V.16	ADOPTED	

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FOREWORD BY COUNCILLOR EMMA HAMPTON

Norwich City Council directly manages many thousands of trees across the city, in its parks and gardens, nature reserves, housing estates, woodlands and nature reserves. Trees are an essential part of our city's environment and vital to healthy urban living. At a time of growing awareness of global climate change and loss of biodiversity, trees and their care is even more important than ever. The council has been and remains committed to the responsible management of the city's trees and has been planting trees in the town since the early part of the 20th century. This tree management plan reaffirms the City Council's ongoing commitment to responsible tree management and to maintaining and enhancing the city's urban forest.

Cllr Emma Hampton

Deputy Leader
Cabinet member for climate and environment
Labour councillor for University Ward



THE NEED AND CONTEXT FOR THIS MANAGEMENT PLAN

Norwich City Council manages thousands of trees growing in the city. These are found within many of its parks and open spaces and large areas of woodlands that we manage directly.

Trees are an essential part of the environment and vital to healthy urban living. At a time of growing awareness of global climate change and biodiversity crisis, trees and the care of trees is more important than ever. The City Council has been committed to the responsible management of the city's trees and has been planting trees in the city since the start of the 20th century, building on the excellent work carried out by well-known city forefathers including Captain Sandys-Winsch, parks superintendent from 1919 to 1953 who planted 20,000 trees, making Norwich the green and 'fine' city it is today.

Trees for Norwich - A 10-year Management Plan reaffirms the council's ongoing commitment to responsible tree management and to maintaining and enhancing the city's canopy cover. This is defined as the area of leaves, branches and stems of trees covering the ground when viewed from above and is usually expressed as a percentage.

Trees play an important role within an urban environment. There has been extensive research in recent years demonstrating the significant benefits trees bring to our physical and mental health, our social and economic wellbeing, to biodiversity, to the air we breathe, and the soil beneath our feet. They can in many cases also act as an acoustic barrier to noise. This is particularly beneficial in an urban area such as ours where traffic noise and noise within high density housing is a potential issue. They also help offset the effects of heavy rainfall, helping to mitigate flood risk, and offset the 'urban heat island effect'. They capture and store carbon and particulates which pose an increasing risk to human health. Together, these benefits that trees provide us with are called 'eco-system services'.

This Management Plan sets out the City Council's approach to the management of its trees on its own land for the overall benefit of the city, its residents, employers and visitors.

Trees bring beauty to our city, but it is central to the management approach that they are not simply considered individually as aesthetic objects but recognised as a key element of the city's green infrastructure essential to the quality of life in Norwich.

This Management Plan sets out the council's commitment to protect, enhance and maintain trees in the city. It describes how this commitment will be delivered and measured.

SUMMARISING THE AIMS OF THE MANAGEMENT PLAN

Trees bring many benefits to the city and its residents. This document describes the current tree population in Norwich and how these trees will be managed, inspected and maintained. For instance, it sets out how and why trees are pruned, the circumstances when they will not be pruned and the reasons why trees sometimes must be removed.

The Management Plan affirms a presumption against the removal of healthy trees, subject to complaints, unless the basis of a complaint has an over-riding justification, and no alternative management practice is practicable.

The City Council will take steps to protect its trees from threats such as the activities of statutory undertakers (including gas, water, electricity and tele-communications) and other excavation activities or building works.

There will be a continuation of tree planting, in suitable sites, to help maintain and extend the tree canopy cover across the city.

The Management Plan will be reviewed and updated regularly to reflect changes in national legislation and developments in arboricultural best practice.

VISION STATEMENT

Norwich City Council's vision for its trees is:

"To preserve and expand the urban forest in a way that is sustainable for present and future generations, and to achieve this we will protect and maintain a safe and resilient urban forest and increase and diversify the urban forest in Norwich"

Defining the urban forest – Forest Research defines the urban forest as comprising all the trees in the urban realm – in public and private spaces, along linear routes and waterways and in amenity areas. It contributes to green infrastructure and the wider urban ecosystem. It provides numerous benefits to human society, and it does so in vast quantities.

Maintaining a healthy and diverse urban forest is critical to sustaining resilient delivery of these benefits, and requires understanding of the urban forest resource, including species and age composition, distribution, and health.

Trees for Norwich is a plan of how the council aims to manage the treescape in Norwich. This will include working together with all the stakeholders to protect, grow and maintain the urban forest. To deliver this overarching plan, it is important we look at the wider national, regional and local policy priorities. These are summarised in Appendix A.



Chapelfield Gardens

The purpose of this management plan

A Tree Management Plan is a comprehensive statement of intent for how we plan to manage, maintain and develop the urban forest in Norwich. It will:

1. Allow for greater understanding of the current tree stock and highlight the contribution it makes to local ecosystem services.

2. Provide a framework for the cost-effective management of all trees in the city and articulating the direction Norwich City Council is traveling.

3. Support councillors as they advocate for their constituents by enabling them with clear policy statements along with detailed guidance.

4. Improve tree health with greater emphasis on the benefits of our proactive tree management and how improved tree health increases the benefits that trees provide us.

5. List the key strengths and weakness of the tree stock and allow us to develop short-medium-long-term goals, objectives, and priorities. It sets out how these can be achieved and measured through clear aims and objectives.

6. Create greater transparency and accountability.

7. Link to other plans and strategies, the Tree Management Plan will align with other council priorities in the Norwich 2040 City Vision, as well as 'We are Norwich: A community-led plan 2024-2029', the Biodiversity Strategy, the Greater Norwich Green Infrastructure Strategy, the Parks and Green Spaces Strategy and the Local Nature Recovery Strategy.

To ensure a sustainable urban forest, the Tree Management Plan can be used to support the council's case for more trees and enable us to take advantage of funding opportunities from central government and other grant awarding bodies.

THE KEY BENEFITS OF HAVING A TREE MANAGEMENT PLAN

The urban forest provides a broad range of benefits to people that add to the wider ecosystem services that all the green infrastructure supports. The ecosystem services that trees deliver is broadly linked to their size and the canopy cover that they provide. We will use this Management Plan to highlight the value that trees provide to communities and to ensure that they are viewed as a positive asset that contribute towards to a diverse and vibrant culture in Norwich.

The key benefits of having a defined Management Plan, and through its planned delivery and implementation, are considerable, and will ultimately provide:

1. **A sustainable urban forest -** that has everything it needs to maintain its extent and enable it to provide the desired ecosystem services.

- **Improved tree health** – increases the ecosystem services that trees provide; healthy trees make a much greater contribution. Proactively managing trees identifies potential issues and enables us to mitigate these in a timely manner. Having a safe, healthy urban forest is integral to promoting increasing the urban forest in Norwich.

- **Tree protection and retention** – is an integral part of maintaining the urban forest, trees should be removed only when it is necessary and replaced with trees that give us the same or increased benefits. To help us protect trees we currently hold 615 Tree Preservation Orders (TPO) and have seventeen conservation areas. Having robust tree protection identifies 'at risk' trees and highlights the obligations that potential developers and landowners must maintain and improve the urban forest. Retaining existing trees is more valuable for Biodiversity Net Gain (BNG) than planting replacement trees, therefore a robust tree retention policy will be enforced during the development process.

- **Increased tree canopy cover** - in line with advice from central government and national governing bodies, we should be working towards increasing the tree canopy cover in Norwich, to a baseline target of 30%. An i-tree eco survey in 2020 put the canopy cover data for Norwich at 17.4% (±2% tolerance of i-Tree Canopy). This Management Plan will assist our aims in increasing tree canopy cover.

- **Resilience to climate change** – a healthier, larger, and more diverse urban forest that increases the positive ecosystem services that trees provide. Creating continuity and enabling measurable contingency plans to be put in place to counter the negative effects of climate change.

- **Tree diversity** – greater diversity of age and species increases resilience within the tree population.

- **Planting the right tree in the right place** – planting trees in a sustainable way to increase the tree canopy cover in Norwich, this will put an emphasis on planting the 'right tree in the right place' and will enable us to efficiently accomplish our aims. It will make sure that we consider factors that influence species suitability such as local environmental conditions, ecosystem services, climate change resilience and whether there is space for the tree to grow to maturity without coming into conflict with infrastructure. Good tree selection will mean that future management costs are minimised.

- **Biodiversity** – trees contribute to biodiversity, a larger, healthier urban forest will aid the council's broader aim to increase biodiversity across the city. They provide connectivity between areas of separated habitat and are themselves habitat providing shelter and food for many species.

2. **Community engagement -** an aim to share and discuss the benefits that trees provide by:

- **Enabling communities** – by building on the proactive work the council is doing with existing friends groups involved in parks, open spaces and natural areas. We can engage with communities to develop community relationships and promote a culture of shared ownership.

- **Greater benefits to society** – by expanding the urban forest and increasing tree numbers we will also be increasing the health and wellbeing of communities.

3. **A thriving urban forest** that can contribute ecosystem services into the future through:

- **Cost efficiencies** - tree management highlighting the benefits of investing in effective proactive tree management. By having an adopted Management Plan, this increases our chances of attracting funding to support the trees in Norwich through improved monitoring and analysis. It will also help us to forecast upcoming budgetary requirements and apply for funding opportunities as they arise.

- **Reduced incidences of emergency tree work** - through having healthier trees and more effective management. This will have a knock-on effect for reduced instances of culpability following damage to property.

- **Minimised environmental impact of the climate emergency** - by highlighting the positive ecosystem services the Management Plan can support how we improve resilience.

- **Sequestration of carbon** – by trees occurs as they grow, this is increasingly important to offset the negative impacts of pollution from the urban environment. Trees directly reduce the amount of atmospheric CO2.

- **Pollution control** – from trees planted in the right place by filtering the air and trapping particulates within their foliage improves air quality. Planting trees in the right place also forms a barrier that can lessen the effects of noise and light pollution.

- **Shade effect** – of trees is progressively more significant in our warming climate, higher temperatures and prolonged periods of drought put increased pressure on urban communities. Trees planted next to buildings and in public open space reduce summertime temperatures.

- **Reducing the 'urban heat island effect'** – that is created in towns and cities by these urban environments producing and trapping more heat than the surrounding countryside. Trees do this by releasing water vapor through a process called evapotranspiration, that in combination with shading surfaces significantly reduces urban temperatures.

- **Rainwater interception** - trees reduce the runoff caused by storms by slowing the water flow in various ways; through direct capture in root systems, bark and canopy; by stabilising

soil allowing it to hold and slow water and through water uptake process of transpiration and evaporation via foliage.

4. **Minimise the impact of pests and diseases** affecting trees that are becoming increasingly more prevalent and challenging. The UK Plant Health Information Portal holds information on pests and diseases affecting trees. Trees for Norwich highlights these and contains information about how we will manage them in the Priorities section.

- **Current threats** - issues such as ash die-back, acute oak decline and oak processionary moth.

- **Future threats** - issues that we may face in the future such as *Xylella fastidiosa* or the Emerald ash borer beetle.

- **Biosecurity and tree planting** – stock needs to be procured from companies accredited under the Plant Healthy Certification Scheme and in line with the Plant Biosecurity Strategy for Great Britain 2014.



Earlham Park

UNDERSTANDING THE COUNCIL TREE STOCK

A resource called Tree Equity Score UK has been created by the Woodland Trust in collaboration with partners and aims to provide a simplified assessment of overall tree distribution in urban areas. It gives neighbourhoods a score ranging from 0-100. A score of 100 means that the area has met the minimum standard for tree cover. Norwich currently has a composite score of 90 (Appendix B).

To help us understand the urban forest in Norwich we have identified concerns through analysis of our strengths, weaknesses, opportunities, and threats (SWOT), (Appendix C) to help develop our objectives. This form of analysis works by creating a simple matrix, for example, if concerns that we have identified in the weaknesses, are also present in some form as threats, then this can be easily identified in the objectives.

OUR MAIN AIMS, PRIORITIES AND ACTIONS

Our main aims, priorities, operational actions are highlighted below.

Progress will be measured annually, every five years and every ten years respectively.

Aim 1: Protect and maintain and enhance a safe and resilient urban forest

The value of well managed trees and the wider ecosystem services that they provide is increased by proactive tree management. The outcome of the financial outlay on proactive tree management are the added benefits that trees provide. These increased ecosystem services help Norwich to combat the adverse effects of climate change.

Proactive tree management is when trees are actively managed to anticipate what work might be needed by identifying upcoming concerns, for example ordering work to prune branches away from a footpath before they become an issue for pedestrians.

Priority 1: Proactive tree management – Norwich City Council (NCC) already takes a proactive approach to managing its trees with the details of our cyclical inspection program described in our Tree Risk Management Framework (TRMF).

The TRMF aims to minimise the risks posed to people and property by trees and enables NCC to manage our trees to the benefit of local communities. This framework ensures that we continue to proactively manage our trees.

Maintaining our trees proactively with periodic inspections helps early identification of pests and diseases allowing for timely intervention, planning and reporting.

- **Action 1.1:** Complete all tree safety inspections in line with the TRMF.
- **Action 1.2:** Order work to trees in line with the TRMF.
- **Action 1.3:** Investigate all customer tree enquiries within the allocated time frames in line with the TRMF.
- **Action 1.4:** Report any suspected findings of tree pests and diseases which are of concern in Britain.

Priority 2: Norwich's tree inventory – is a record of all the council managed trees and includes information such as a trees location, size, age, and health. Since 2010 we have been recording tree inventory data digitally and currently hold information on 39,400 trees. The data is then uploaded to the council's GIS systems and can be viewed by both council employees and members of the public.

This data is essential when establishing future planning for the maintenance of the council's trees.

We use the Capital Asset Valuation of Amenity Trees (CAVAT) methodology to value the council trees, this assesses the economic, social, and environmental benefits that they provide Norwich and have been valued at just over £300,000,000.

Our tree inventory has documented most of the council managed trees, and we will prioritise surveying the remaining areas.

- **Action 2.1:** Earlham Cemetery – trees within falling distance of the main roads, pathways and boundaries have been recorded; we will complete the final areas within the next five years.
- **Action 2.2:** Rosary Cemetery – trees within falling distance of the main roads, pathways and boundaries have been recorded; we will complete the final areas within the next five years.

Priority 3: Parks and play areas – Norwich has 23 formal parks and 81 play spaces that contain 11,141 trees.

Amongst these there are several Grade II and II* historic parks and gardens designed by Captain Sandys-Winsch, park's superintendent at Norwich City Council from 1919 to 1956. Many are also within the city's conservation areas.

It is in these heritage parks where the trees present the greatest management challenges. Many of the original tree lined avenues are now coming to the end of their lives at similar times and are starting to develop biomechanical features and diseases that could become a safety concern. We must have a plan in place to start the process of renewal of the trees in Norwich's heritage parks so that it is done in a way not to adversely affect their overall aesthetic.

- **Action 3.1:** Include tree renewal programmes for declining avenues in park management plans.
- **Action 3.2:** Identify new areas suitable for tree planting and to include these in management plans.
- **Action 3.3:** Seek longer term funding for the replacement and management of trees within these important heritage parks.
- **Action 3.4:** Review and adopt best practice with regards to the use of parks for events and ensure actions are undertaken to protect root zones from the impact of such events.

Priority 4: Woodland and natural area management – we maintain 28 woodland sites around Norwich of various types and ages.

Woodlands are a significant part of Norwich's landscape, where they provide an important green lung, diverse habitats, accessible natural green space as well as recreation space for people to enjoy.

Much of the council's woodland is mature and well established having been planted by previous landowners prior to the industrial revolution. Many of the trees are mature and moving into veteran status. Sensitive and ongoing management is needed to maintain the woodland stock and introduce new trees ready to replace the older ones into the future.

Norwich City Council is already actively managing its woodlands, with recent woodland management work carried out at Marlpit Paddock, Danby Wood, Bunkers Hill Woodland, Netherwood Green Wooded Ridge and Charter Wood. The work has involved woodland thinning, haloing around specimen trees, coppicing, pollarding creating woodland glades and replanting with mixed native species.

Proactive woodland management involves making difficult decisions regarding the removal of trees that is needed to create healthier more resilient urban woodlands. Any tree removal in the urban area is often viewed negativity by local communities although it is an essential part good management. We will engage with, and communicate, the benefits of maintaining woodland to local communities.

- **Action 4.1:** Increase capital and revenue resources for more proactive management of woodlands, natural areas and tree belts (applying the concepts of continuous cover forestry to the urban environment to create and maintain healthy age structure without losing canopy cover). The council will make best use of grant applications where appropriate.
- **Action 4.2:** Carry out National Vegetation Classification (NVC) level 1 / 2 survey of the woodlands – baseline data survey on appropriate sites.

Priority 5: Mousehold Heath

Mousehold Heath consists of woodland, grassland, heathland, and recreational open space covering 184 acres. It was given to NCC by the Church of England in 1880 for the citizens of Norwich. Historically, Mousehold Heath was much larger and predominantly open heathland, whereas today there are large areas of maturing woodland.

Mousehold Heath is maintained and preserved by the Mousehold Heath Conservators and managed on a day-to-day basis by two wardens. Where possible, work to maintain the trees on the heath is carried out by the wardens in cooperation with local volunteer organisations.

Professional tree work is carried out as necessary around the heath and adjacent highways by our main contractor NCSL. When ordering this work, we will consider the priorities highlighted in the Heath's management plan.

- **Action 5.1:** Mousehold Heath wardens will carry out tree inspections in accordance with our Tree Risk Management Framework and report findings to the arboricultural officers.

- **Action 5.2:** To work with Mousehold Heath wardens to allow natural regeneration of the woodland.
- **Action 5.3:** To work with Mousehold Heath wardens to manage invasive species such as sycamore and rhododendron.
- **Action 5.4:** To leave standing dead and decaying wood where it is safe to do so and create dead and decaying habitat wood piles on Mousehold Heath and elsewhere, where appropriate to do so.

Priority 6: Trees within housing areas

The benefits that trees provide play an important role in improving the quality of council tenants' and wider citywide residents' lives and increases biodiversity throughout the city.

We maintain 8,438 trees within communal housing areas and 1,253 trees recorded in tenanted council houses throughout the city.

In 2019, we marked the centenary of council housing with several celebrations, showcasing the proud history of homes within our city. To mark the event, we planted 100 trees in communal housing areas around the city.

Historically there have been tree management issues in housing areas caused by inappropriate tree planting that continue to cause issues for tenants. We will use the principles of planting the 'right tree in the right place' to reduce future management issues.

- **Action 6.1:** identify new areas suitable for tree planting as part of the estate aesthetic programme and especially in areas of low tree canopy cover and encourage tenants to either adopt a tree or plant a tree in their own gardens.

Priority 7: Tree Preservation Orders and Conservation Areas

The Town and Country Planning Act 1990 sets out the legislation to enable the council to legally protect trees. This is via a Tree Preservation Order (TPO) or if they are growing within a conservation area.

Protecting trees from unnecessary pruning or removal is an import function of the council. We currently hold over 600 Tree Preservation Orders (TPO) and have seventeen conservation areas in which trees are offered protection.

Trees are assessed on their suitability for a TPO using the TEMPO system (Tree evaluation method for preservation orders) developed by Forbes Laird Arboricultural Consultancy. We only consider serving a TPO if a tree is under threat.

- **Action 7.1:** Carry out a TPO review - we currently hold 615 Tree Preservation Orders that are helping to protect trees in Norwich. Many of these have been in place for a long time and need reviewing. We will need to review internal and departmental resources to update the TPO register.
- **Action 7.2:** Increase public awareness of the importance of TPOs and the importance of the legal requirements and their implications where appropriate.

Priority 8: Planning Development and Enforcement

The National Planning Policy Framework is the national set of planning policies that must be applied when considering applications for new development. The policies include statements regarding how development should protect and maintain trees, stating that new streets should be tree lined and that trees should be incorporated into new developments with measures in place to secure long term maintenance. It also states that wherever possible existing trees should be retained.

As part of the recently introduced Environment Act new development projects have a greater responsibility to provide green infrastructure and biodiversity protections and enhancements. The new mandatory 10% Biodiversity Net Gain (BNG) requirement will help maintain and build in resilience to projects that could otherwise be harmful to the environment. Within the legislation there is also more protection for trees with an exemption status for irreplaceable habitat.

The Town and Country Planning Act 1990 places a statutory duty on Local Authorities "to ensure whenever it is appropriate that in granting planning permission for any development, adequate provision is made by the imposition of conditions for the preservation or planting of trees."

The City Council has several development management policies and supplementary planning documents in place which promote the protection and retention of trees and aiming to secure new tree planting as an integral part of new development, including.

The Council will only register applications for development when supplied with full tree related information in line with B.S.5837:2012.

- **Action 8.1:** Monitor construction sites where trees are affected by development to ensure that all tree protective measures are in place.
- **Action 8.2:** Liaise with the planning enforcement team in relation to tree protection/damage/removal issues related to new development.
- **Action 8.3:** Monitor and enforce new tree planting agreed through new development.

Priority 9: Enable community involvement

Around Norwich there are many 'Friends' groups and residents associations from local communities that work together with council officers to advocate for the parks and open spaces on behalf of citizens. We collaborate with them on management plans for trees in parks and they help us to liaise with local people.

We work in partnership with the Norwich Fringe Project and Mousehold Heath Wardens to maintain our natural areas and woodlands. When it is safe to do so, much of this work such as coppicing, pollarding, and woodland thinning is carried out by volunteers. We also run a tree sponsorship scheme called Trees for Norwich that allows local people to sponsor a new tree to be planted in the city.

As well as active engagement, we will investigate establishing a network of tree wardens to better connect with local communities to inform about the benefits trees provide and how people can get involved with helping to maintain our trees.

The Management Plan can create a platform to engage with local communities to give them a sense of ownership of the environment.

- **Action 9.1:** Investigate the potential to operate a pilot tree warden scheme in Norwich.
- **Action 9.2:** Expand the Trees for Norwich sponsorship scheme.
- **Action 9.3:** Work in contact with community enabling officers prior to tree planting and investigate how we can involve local communities.
- **Action 9.4:** Encourage local residents to plant trees in their own gardens and promote the benefits of trees widely through marketing and social media.
- **Action 9.5:** Promote the planting of fruit and nut trees to help alleviate food insecurity and contribute to healthier diets, but adopting the principle of right tree, right place.

Priority 10: Highway trees (Norfolk County Council Highways Department)

Norwich has 10,000 trees within the adopted highway. They are some of the most prominent and highly valued in the city and are maintained by Norfolk County Council's Highways department.

Highway trees contribute greatly to the urban forest improving amenity and should be preserved and enhanced

We work closely with highways officers to maintain the street trees in Norwich, and they welcome the chance to support our priorities within this Management Plan. They share our vision for a safe and resilient urban forest ready to combat future challenges.

Many of our street trees are in hard landscape areas, and this can complicate replacement tree planting. Priority should be given ensuring that there is provision for replacement planting as well as investigating the opportunities for new plantings.

- **Action 10.1:** Work with Norfolk County Council to identify areas for new and replacement tree planting along the highways, aligning with their 'Tree Planting and Resilience Strategy'.
- **Action 10.2:** To expand the Trees for Norwich sponsorship scheme.

Aim 2: Increase and diversify the urban forest in Norwich

By creating a larger and more diverse tree resource we can maximise the benefits that trees provide communities and ensure that the council's trees continue to make a positive contribution to climate adaptation.

Planting more of the right trees in the right places is key to succeeding to increase resilience to the impacts of climate change and the rise of invasive pests and diseases.

To enhance tree health and biosecurity, NCC currently procures all tree planting stock from companies accredited under the Plant Healthy Certification Scheme.

Priority 11: Increase tree canopy cover

Tree canopy cover (TCC) is a good indicator of the benefits that the urban forest can provide and an important management tool, it can be estimated using several different methods. These methods use different criteria that often creates varying results.

We will work towards increasing TCC in Norwich to 30% in line with advice from central government.

Our aspirations are that we should embrace the 3-30-300 rule proposed by Cecil Konijnendijk that states everyone should be able to see at least three trees from their home. We should aim to have 30% TCC in every neighbourhood and we should all be within 300 metres of the nearest high-quality green space. Of course, to achieve this, we need to know what we have in greater detail and therefore we need an accurate baseline figure for the tree canopy cover in Norwich before we can set a realistic and achievable target for improvement. There are several different methods for measuring TCC and they all have their own strengths and weaknesses. The method that we use needs to be easily repeatable so that we can measure future changes.

We already have some data regarding the TCC in Norwich. A biodiversity baseline study carried out in 2024 that was commissioned by the council has analysed lidar data and estimated that the tree canopy cover is currently 25.1%. As this is the most recent survey, we will be using this as the baseline figure for Norwich.

A study by Google of data from 2022 has been published putting the TCC in Norwich at 24%.

We also have data from a free online tool called i-tree eco, run by Forest Research in conjunction with i-Tree.

The last i-tree eco survey undertaken for the Norwich area in 2020 put the canopy cover at 17.4% (±2% tolerance of i-Tree Canopy). Analysis by wards highlights the lowest four that we can prioritise for improvement. These are Mancroft, Sewell, Catton Grove, and Nelson (Appendix D).

We will place an emphasis on planting ‘the right tree in the right place’ to enable the urban forest to grow without the need for large increases in maintenance budgets.

Although we have some limited data on the extent of the urban forest in Norwich greater understanding would enable us to better target areas for increasing tree canopy cover.

- **Action 11.1:** Utilise the agreed baseline figure for tree canopy cover in Norwich.
- **Action 11.2:** Set short-medium- and long-term targets to increase tree canopy cover in Norwich.
- **Action 11.3:** Improve newly planted tree establishment rates by monitoring annually the numbers of newly planted trees that survive for an initial three-year period.
- **Action 11.4:** Engage with stakeholders to identify new tree planting opportunities, prioritising wards with lowest TCC.
- **Action 11.5:** Work in partnership with Norfolk County Council Highways to develop opportunities for planting replacement and new street trees, prioritising wards with the lowest TCC.
- **Action 11.6:** Seek out and consider relevant funding opportunities and set short-medium- and long-term tree planting goals within a year.

Priority 12: Tree species diversity

As with other plant taxonomy, trees are categorised by their family, genera, species and variety with a healthy tree population having diverse mix.

To avoid monocultures urban tree populations should contain no more than 10% of a particular species, 20% of a particular Genus and 30% of a particular Family. Maintaining healthy species

diversity will increase resilience enabling us to better combat the adverse effects of climate change and pests and diseases.

Norwich City Council owned trees are currently within these parameters (Appendix E). Although this is desirable, we are quite close to these tolerances for some of our trees, with the most common family and species being 25.6% Rosaceae and 9.26% Sycamore.

By increasing species diversity, we can build in greater resilience to future threats.

- **Action 12.1:** Analyse the tree species by ward to enable us to target concerns at a local level.
- **Action 12.2:** Monitor the species of new trees that we plant to ensure we maintain a diverse tree population.
- **Action 12.3:** Proactively manage woodlands that are becoming monocultures of sycamore to create healthier more diverse habitats.

Priority 13: Tree age diversity

To create greater resilience in the council tree stock, it should have a structure containing a healthy variation of different age classes. Tree age is usually linked to tree size, so tree populations are often measured by their size, using the stem diameter at breast height (DBH).

This method illustrates (Appendix F) that we have an aging tree population, ideally the council's trees should have 40% 0-20cm, 30% 20-40cm, 20% 40-60cm and 10% over 60cm.

The data clearly shows that we have too many old trees and not enough younger trees ready to take their place and that to have greater resilience we must work towards having a more diverse age structure of council trees.

- **Action 13:1:** Ensure that replacement tree planting is undertaken in the following planting season.
- **Action 13:2:** Work with stakeholders to identify areas for new tree planting.
- **Action 13.3:** Put management plans in place to facilitate the replacement of Norwich's aging tree avenues, tree groups and urban woodlands.
- **Action 13.4:** Introduce more coppiced areas in woodland and tree belt, plant suitable trees to be coppiced on rotation to create age diversity in woodlands.

Review

We will monitor the Management Plan annually, to ensure that the performance indicators are progressing and are measured against the objectives. The medium- and long-term goals will then be reviewed at five- and ten-year intervals.

We will also investigate the possibility of working together with other local authorities by benchmarking.

We will also investigate opportunities for consultation with national bodies such as the Arboricultural Association, London Tree Officers Association and the Institute of Chartered Foresters.



Lion Wood

APPENDIX A: POLICY CONTEXT

Norwich 2040 City Vision

A Liveable City that adapts and undergoes renewal... works together to combat climate change... values green and open spaces... has excellent air quality. This means protecting and maintaining our green and open spaces to improve biodiversity and air quality.

The Environment Act 2021

In 2021, The Environment Bill received royal assent to become The Environment Act. This operates as the UK's new framework of environmental protection following the UK's exit from the European Union and allows the government to enshrine environmental protection into law. It offers new powers to set binding targets, including for air quality, biodiversity, and waste reduction. Of note is the introduction of mandatory Biodiversity Net Gain (BNG), which requires development sites to achieve a 10% net gain in biodiversity compared to the pre-development condition of the site, and the strengthened duty on local authorities to act for biodiversity and monitor/report on those actions under the NERC Act 2006.

Local Nature Recovery Strategy

Local nature recovery strategies (LNRS) are a system of spatial strategies for nature and environmental improvement introduced under The Environment Act 2021. These strategies must agree priorities for nature recovery, map the most valuable existing areas for nature and map specific proposal for creating or improving habitat for nature and wider environmental goals. The intention is for LNRSs to support the planning application process, including for mandatory biodiversity net gain, as well as the strengthened biodiversity duty introduced by the Environment Act. Norfolk County Council has been appointed as the responsible body in charge of producing the LNRS for Norfolk.

We are Norwich 2024-2029

This is the council's community-led plan which outlines five priorities. This Management Plan relates to the priority to create *A Climate Responsive Norwich*, fulfilling, to a greater or lesser degree, each of the four related aims, and particularly the third aim, as set out below:

1. A Net Zero council by 2030.
2. A Net Zero Norwich by 2045.
3. Vibrant parks and green spaces; and
4. Adapting to climate change.

Green Spaces Better Places - A Parks and Green Spaces Strategy for Norwich - 2025-2035

The Parks and Green Spaces strategy sets out how Norwich will invest in and improve the parks and green spaces in the city. It applies to all parks and green spaces in Norwich excluding spaces within housing estates, highway verges and smaller ancillary amenity spaces. The strategy applies primarily to parks and green spaces, recreation grounds, cemeteries, play spaces, allotments, and our natural and semi-natural green space assets including the urban fringe, especially valuable in an urban community such as ours. It sets the direction of travel and will assist in securing funds for continued investment in our parks and green spaces.

Biodiversity Strategy 2022-2032

As set out in the council's Biodiversity Strategy, the council's biodiversity policy is to 'create a city where biodiversity can sustainably recover and thrive, halt species decline and increase species diversity and abundance by 2030 or sooner' affirming the council's commitment to lead and coordinate nature recovery in the city.

One of the actions of this strategy is to develop and implement a strategy for trees. A further action is to develop a nature recovery network for the city, a vital component of which are the city's trees.

Current Local Plan Policy

The currently adopted Local Plan for Norwich City Council consists of the following documents:

- Joint Core Strategy for Broadland, Norwich and South Norfolk
- Norwich City Council Site Allocations Local Plan
- Norwich City Council Development Management Policies Local Plan

These documents contain multiple policies that support protection and enhancement of the natural environment including trees through the planning application process such as through JCS Policy 1, DM6 and DM7.

In addition, the council has also adopted several Supplementary Planning Documents (SPDs) to assist in the application and implementation of the Development Management Policies. Of relevance is the Landscape and Trees SPD which sets out landscaping requirements for new developments in Norwich.

Greater Norwich Local Plan (GNLP)

The Greater Norwich Local Plan (GNLP) is a strategic framework for development in the Greater Norwich area, and was adopted in March 2024, guiding growth and infrastructure from 2018 to 2038. The GNLP serves as a comprehensive planning document that outlines the vision for growth in Greater Norwich over a 20-year period. It aims to balance the need for new housing, jobs, and infrastructure while protecting the area's unique environment and community character.

Greater Norwich Green Infrastructure (GI) Strategy

Norwich City Council, along with Broadland and South Norfolk Councils, has adopted a Green Infrastructure Strategy for the Greater Norwich area. The main aim of the strategy is to support the protection, enhancement, and provision of GI, promoting health and wellbeing, provide places for outdoor recreation and play, create, maintain, and improve habitats, help mitigate the effects of climate change and provide a linked network of multi-functional spaces. The strategy has established a baseline of existing GI in Greater Norwich and provided an assessment of whether this meets current and future needs, identified future opportunities for GI, as well as supports planning applications and other decision making, and has created delivery plans to implement the strategy.

River Wensum Strategy

Norwich City Council led on and produced the River Wensum Strategy along with partners including the Environment Agency, the Broads Authority, the Norwich Society, and Norfolk County Council. The strategy aims to bring life back to the river corridor in the city focussing on the unique social, economic, and environmental aspects and opportunities of this asset. The strategy contains a chapter on improving the environment and a delivery plan has been produced setting out the projects looking the deliver the aims of the strategy.

APPENDIX B – TREE EQUITY SCORE

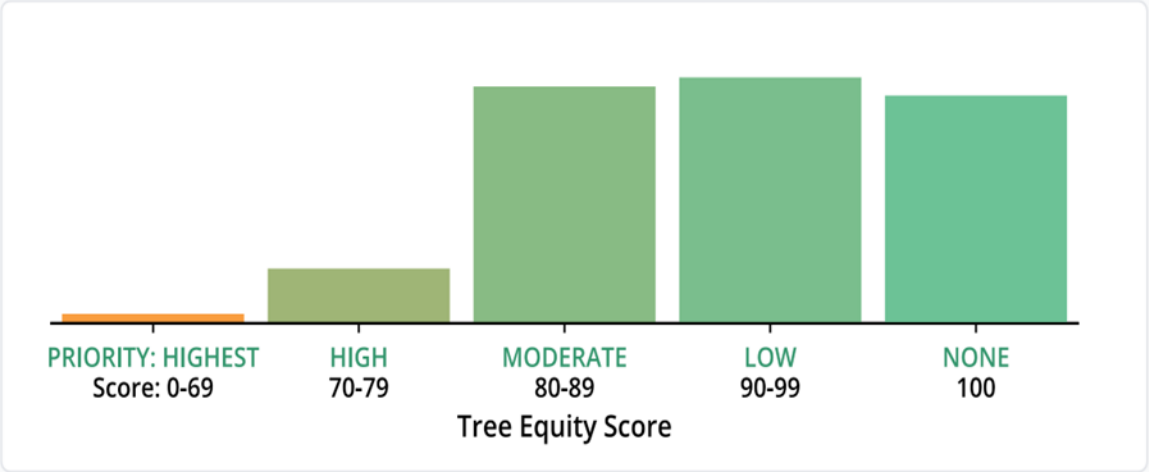
Norwich, England

Composite Score: 90

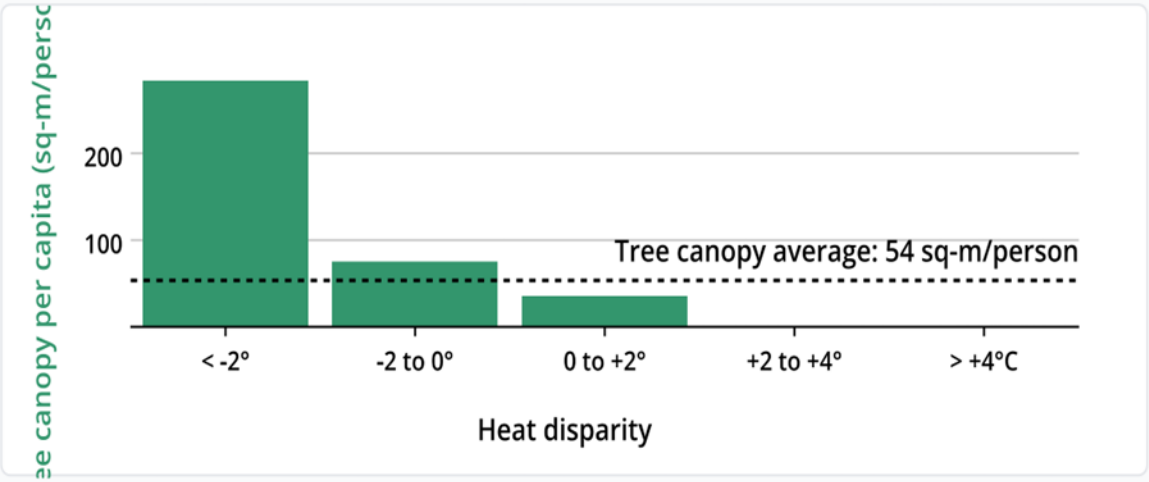
Summary of Norwich urban areas

Population	143,967
Income ranking (IMD)	mean: 12,274 | range: 1,004-32,040
Employment ranking (IMD)	mean: 13,052 | range: 1,080-32,635
Health ranking (IMD)	mean: 8,245 | range: 292-26,502
People from minoritised ethnic groups	13.1%
Children and older people	32.8%
Average NO2 air pollution	10.7 µg/m3
Average PM2.5 air pollution	7.3 µg/m3

Distribution of Tree Equity Scores



Tree canopy vs. Heat disparity



NORWICH City Council

Get all LSOAs to a Tree Equity Score of 75

1 of 85 have a Tree Equity Score below 75



172,601 sq-m of canopy expansion will be needed to get all LSOAs to a score of **75** (this is equivalent to 3,097 medium trees). See the significant benefits to the community this will create.

Total canopy added

0.53%

Annual ecosystem service value

£56,944

CARBON

Carbon sequestered

52.8

tonnes

Carbon sequestered equal to:

98

petrol-powered cars offset

WATER

Stormwater runoff prevented

3.1

million litres

Stormwater runoff equal to:

47

standard swimming pools

AIR

Pm2.5 pollution removed

69.6

tonnes

Pm2.5 pollution equal to:

292

petrol-powered cars offset

Nitrogen dioxide removed

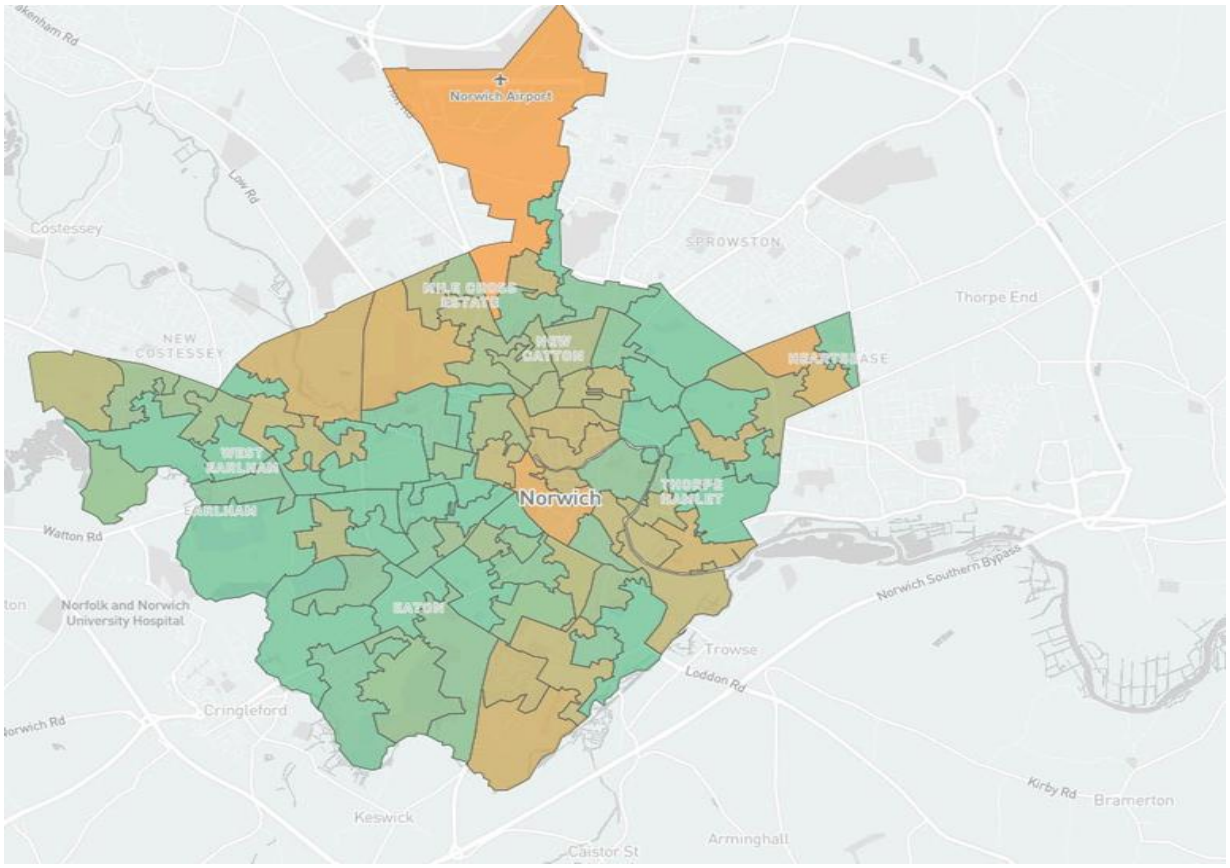
209.5

kg

Sulfur dioxide removed

27.1

kg



Norwich Tree equity score map

APPENDIX C SWOT ANALYSIS

This analysis guided the development of our objectives. Our main aims and priorities should include objectives that allow continuation of our strengths while also addressing the identified weaknesses, opportunities and threats:

- Tree age diversity
- Tree planting funding
- Young tree establishment
- Community engagement
- Woodland management
- Future Planning
- Pests and diseases
- Climate change

Strengths

- Tree risk management procedure – proactive management enables us to maintain our tree resource sustainably and fulfil the council's duty of care to protect members of the public from being harmed by trees.
- Digital GIS mapping and tree inventory data – since 2010 we have held all our tree management data within a specific digital application called Ezytreev. This is an essential tool when that enables the council to successfully manage its trees.
- Tree species diversity – we are currently maintaining a resilient tree resource in the city based on current tree species, genus and family so are ready to face future challenges.

Weaknesses

- Tree age diversity - Norwich has an aging tree population that needs greater diversity.
- Tree planting funding - to help us to maintain and increase the urban forest in Norwich requires additional funding. This adds pressure to the council's finances. We can apply for government funding as and when it becomes available, but this is intermittent.
- Young tree establishment rates - planting trees are a costly process requiring funding and large amounts of staff time to facilitate. We should work to prioritise improving our newly planted trees survival rates.
- Community engagement - at this time is limited, we should investigate ways to engage with communities to enable us to help improve residents understanding of the benefits that trees provide.
- Woodland management - in recent years we have concentrated resources on tree risk management. In the future, we need to engage a program of more proactive woodland management. However, this requires further investment and the award of successful external grant funding.

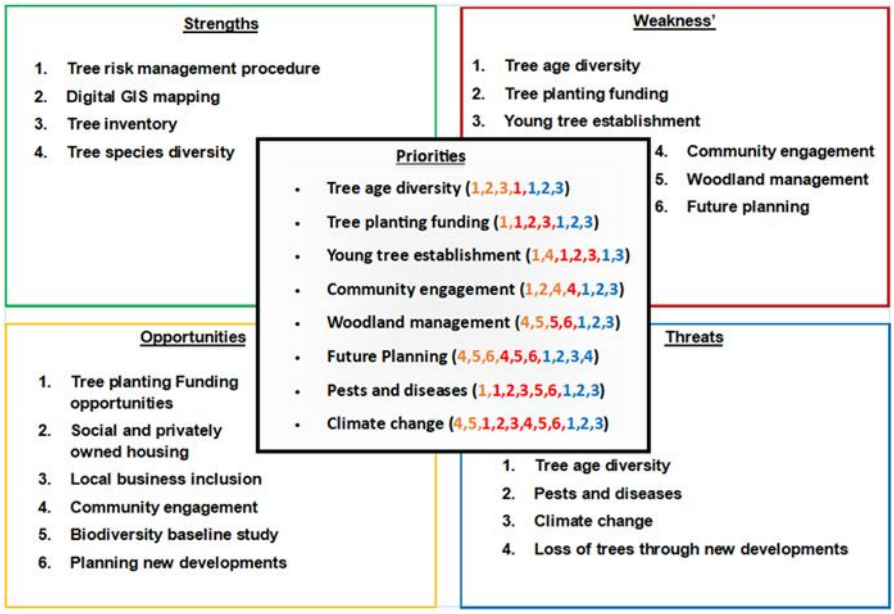
- Future planning - too often we only look forward to the next scheduled tree inspection. To succeed we need to change the way we think about trees and use this Management Plan to be the catalyst for change and to look ahead to what the city will look like in the next 50-100 years. The mechanism for change is partly by thinking more strategically and by adopting Green Infrastructure principles.
- The impact of events in some open spaces such as Earlham Park and Chapelfield Gardens – events are popular in many of our open spaces and concerns remain on damage to tree route systems due to compaction.

Opportunities

- Tree planting funding – the Urban Tree Challenge Fund - GOV.UK (www.gov.uk) and the Local Authority Treescapes Fund - GOV.UK (www.gov.uk) are both available for Local Authorities to supplement their budgets. The council has taken advantage of these funding streams.
- Social and privately owned housing – we should encourage tree planting in the gardens of tenanted council and privately owned properties.
- Local business inclusion – we should engage with local businesses to promote the benefits that trees provide and encourage tree planting.
- Community engagement – we should look to engage with more with people about the benefits of trees and management decisions.
- Biodiversity baseline study – recommendations to inform further opportunities for growing the urban forest and increasing the ecosystem services it provides.
- Planning new developments – to include increased provision for tree planting as part of achieving mandatory Biodiversity Net Gain (BNG).

Threats

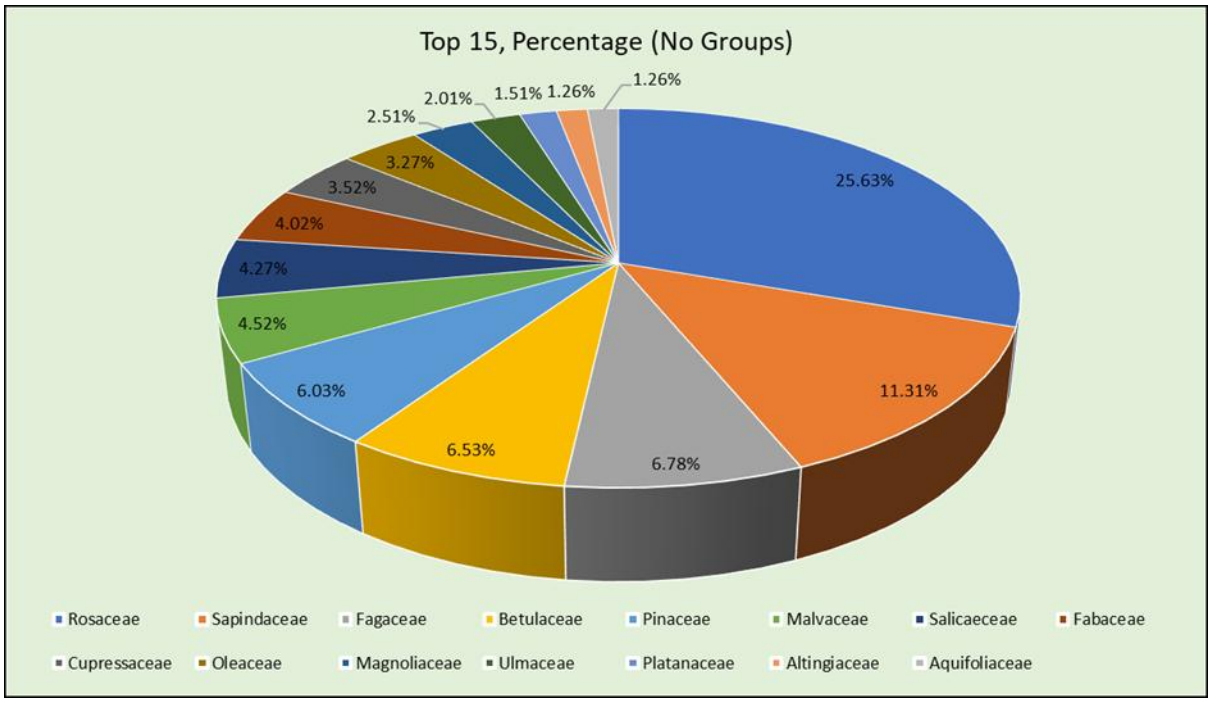
- Tree age diversity – an aging tree population threatens the sustainability of the urban forest, leaving it vulnerable to decline.
- Pests and diseases – are becoming an increasing threat, not only caused by the prevalence of imported plants, risking accidental introduction but also by the warming climate, that when combined with extreme weather events such as periods of drought and flooding, puts trees under stress increasing their vulnerability to pest and diseases.
- Climate change – has increased the number of extreme weather events that threaten urban trees. Heatwaves, drought, high winds, and flooding are occurring much more frequently. This is also affecting when trees come into leaf, flower and when leaves fall, impacting the length of the growing season that has consequences for ecosystems.
- Loss of trees through new developments – should not be seen as acceptable, the importance of trees and green infrastructure in providing high quality living space means that they should be given priority form the beginning of development planning.
- Veteran trees - require specialised management. Identifying the veteran trees of the future is vital to ensure continuity of habitat and to ensure the spectrum of age diversity is maintained.



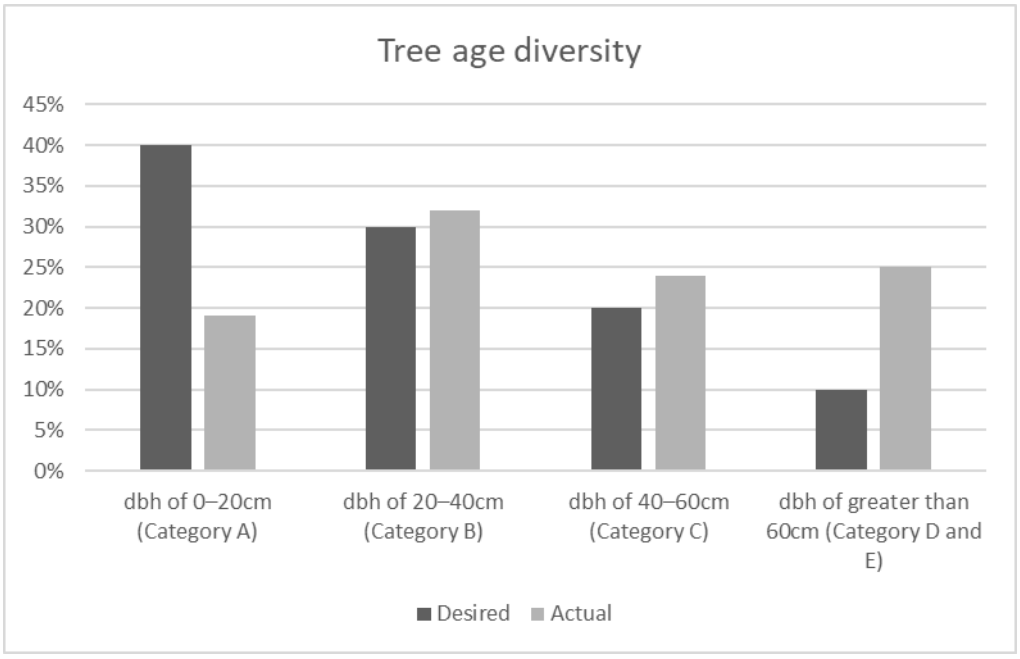
APPENDIX D: PERCENTAGE OF TREE COVER BY WARD

Ward	% TCC	Ward	% TCC
Eaton	27.9%	Mile Cross	18%
Lakenham	20.6%	Crome	16.5%
University	20.5%	Nelson	13.5%
Bowthorpe	20.2%	Catton Grove	12%
Thorpe Hamlet	19.3%	Sewell	11%
Town close	18.4%	Mancroft	10.7%
Wensum	18%		

APPENDIX E: TOP 15 BY PERCENTAGE IN NORWICH



APPENDIX F: TREE AGE DIVERSITY



Tree size	Desired	Actual
0–20cm dbh (Category A)	40%	19%
20–40cm dbh (Category B)	30%	32%
40–60cm dbh (Category C)	20%	24%
60cm+ (Category D and E)	10%	25%

GLOSSARY

Arboriculture - The selection, production, planting, maintenance, and removal of all woody plants for amenity purposes.

Biodiversity - the variety of life in all its forms, levels and combinations; includes ecosystem diversity, species diversity, and genetic diversity.

Biosecurity - A set of precautions to reduce the risk of accidentally introducing or spreading alien invasive species, including potential pests and pathogens.

Carbon sequestration – the processes of capturing and storing carbon dioxide from the atmosphere.

Diameter at breast height (DBH) - The diameter of a tree at around 1.5 metres above ground level.

Ecosystem Services - are the benefits and services provided by ecosystems that support human existence. These include continued provision of oxygen, clean air, drinking water, an equitable climate, the productivity of agriculture, forestry and oceans, control of flooding, soil erosion, coastal erosion and carbon sequestration.

Ecosystem – An area consisting of a community of species, interacting with each other and the physical environment where they live.

Environment - Includes the air, water and land, and the relationship that exists between them and all living things, including plants, man, and other animals.

GIS (Geographic information system) - A collection of computer hardware, software, and geographic data for capturing, storing, updating, manipulating, analysing and displaying all forms of geographically referenced information.

Green infrastructure (GI) - An interconnected network of waterways, wetlands, woodlands, greenways, parks, forests, and other open spaces that support native species.

Green space - Any vegetated land or water within an urban area that serves as recreation or open space. This includes neighbourhood and regional parks, gardens, cemeteries, playing fields, bike and walking paths, and urban landscaping.

Habitat - Food, water, shelter and space that supports plant or animal life.

Tree Inventory - gathering of accurate information on the location and characteristics of trees within a defined geographical area.

Native Species - Species present in a defined region for a certain amount of time without having been brought by humans (cf. exotic), for instance in Britain since the English Channel was flooded around 6,000 years ago.

Non-native species - A species that due to direct or indirect human activity occurs in locations beyond its known historical or potential natural range. Refers to species from another continent, region, ecosystem, or habitat.

Pollution - Substances introduced into the environment by human actions that contaminate the environment.

Tree canopy cover - a metric that measures the area of ground covered by the tree canopy which includes the branches, foliage, and stems.

Tree Protection Order (TPO) - A legally enforceable document made by the local planning authority to protect trees and woodland in the interests of public amenity.

Urban Forest - Trees, woody shrubs, hedges, herbaceous plants, waterways, wildlife, grasses, and other green infrastructure.

Urban heat island effect - A phenomenon where air temperatures in urban areas are 2-10°F hotter than surrounding rural areas due to the high concentrations of buildings and pavement in urban areas.


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