PLAN4TREES

Bristol Tree and Woodland Strategy

THIRD DRAFT (v. 3.1)

Executive Summary

[To be written at the end and to include a Councillor/ One City narrative. It will draw on the role and importance of trees and woodlands in Bristol and detail the key components of the Bristol Tree and Woodland Strategy, including l A collective vision and agreed targets for Trees and Woodland in Bristol | Five-year Actions plans providing an initial set of actions and projects that will accelerate the delivery of our vision and help to achieve targets l The Funding and Delivery Mechanisms that we will need to utilise to achieve our vision. The existing evidence base for Trees and Woodlands; l Identified challenges to protecting and managing our existing trees and woodland, and to establishing new trees and woodland, and opportunities to address these challenges | Key impacts and principles to guide tree planting, woodland creation and the management of new and existing woodland |

This Strategy is a starting point on the journey towards achieving our vision. By working in partnership and drawing upon the commitment and expertise of citizens, the city council, charities, businesses and many others, transformative change is within reach.]

1. Introduction

The declarations of climate and ecological emergencies in Bristol highlight the urgent need to increase tree and woodland cover to mitigate and adapt to the impacts of climate change and restore nature. Trees are also unequally distributed across the city and under significant threat, notably from Ash Dieback Disease and a changing climate.

This is the time to act: 92% of people in Bristol support the ambition to double tree canopy cover[1] and 80% want a tree planted in their neighbourhood.

The Bristol Tree and Woodland Strategy (BTWS) brings together the wide range of work which is already taking place with the views of residents, businesses and wider stakeholders. Setting out an ambitious city strategy and framework for action, it invites landowners and organisations to commit actions for trees and woodland, adding to those of Bristol City Council (BCC), Forest of Avon Trust (FoAT), Woodland Trust (WT) and Bristol Tree Forum (BTF) set out in Section 5. A dynamic partnership document it will be updated and revised as we progress.

1.1 Key Impacts

Working in partnership, the Bristol Tree and Woodland Strategy (BTWS) will through adoption of Tree Impact Criteria (TIC's} will

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[1] Ref to the Questionnaire Survey if available on-line.

- Address disadvantage: prioritising action in areas of greatest need as defined by Indices of Multiple Deprivation.
- Ensure equal access: prioritising action in areas with fewest trees, weighting action to areas which fall below the city average.
- Reduce harmful effects of climate change, focusing action in areas of greatest urban heat stress vulnerability, keeping neighbourhood's cooler in extreme heat events.
- Deliver nature recovery, focusing action on spaces that contribute most to a Bristol Nature Network, providing the greatest ecological benefit.

By addressing inequality, equity of access and focusing on greatest benefit, we will maximise the impact of resources for the people of Bristol, in the context of wider environmental justice. As set out below, individually and in combination these impacts will significantly contribute to the quality of life of people across the city now and in the future.

1.2. Wider Impacts (See Appendix 1)

Trees provide a huge range of linked benefits, contributing to all aspects of our lives, they: [INFOGRAPHIC]

- Reduce air pollution
- Provide shade and cooling
- Reduce flood risk and disturbance
- Provide improved habitat and food for wildlife
- Remove carbon dioxide from the air (and storing it as carbon)
- Help us feel good

- Provide easy ways to take practical action
- Create attractive, traffic calmed streets
- Improve views and reduce traffic noise
- Create attractive areas to work and invest in
- Produce fruit, wood products and timber
- Improve water quality
- Reduce soil loss

Create link and reference to 'tree benefits' identified in Tree Questionnaire

[Bristol's 600,000 trees store 360,000 tonnes of carbon dioxide and remove 14,000 tonnes of carbon dioxide and 100 tonnes of harmful air pollution from the air annually.[2] USE THESE AND OTHER FACTS TO HELP ILLUSTRATE INFOGRAPHIC BASED ON THE ABOVE]

For details of tree benefits see **Appendix 1**.

1.3. Vision

A city of trees, where everyone is close to trees and directly benefits from them.

1.4. Targets

Target A: Increase city tree canopy cover by 795ha (equivalent to 1,100 football pitches) by 2046, giving a total canopy of 24%.

Target B: Protected woodland to be in good management by 2046 (to meet Managing for Nature definition)

In achieving Targets A and B we will **care for and manage the 600,000 trees in the city, sustaining them, their successors and new planting into the future.**

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2 Available at: https://forestofavontrust.org/for-trees/itree-the-benefits-of-tree

This target and commitment to tree care and management are ambitions which are dependent on a wide range of factors, including funding and land availability. As such the BTWS is a dynamic document, meaning it will be reviewed regularly and reflect new and developing programmes to increase tree cover and bring protected woodland into to good management. We will regularly review progress and update targets if necessary. Guided by the four key impacts we will always deliver the greatest benefit for the resources available.

1.5. Guiding Principles

We will:

- Address disadvantage (key impact), prioritising planting in low tree canopy areas.
- Ensure equal access to trees (key impact), prioritising areas with fewest trees.
- Reduce the harmful impacts of climate change (key impact), prioritising areas with greatest urban heat stress.
- Deliver nature recovery (key impact), prioritising areas with greatest contribution to Bristol Nature Network.
- Plant the right tree in the right place [add link to what this means], using species resilient to climate change and resistant to disease.
- Exercise bio control ensuring that tree pathogens do not spread from abroad or within the UK.
- Sustainably and carefully maintain and manage trees in accordance with best practice.
- Work collaboratively with citizens, landowners and organisations across the city.
- Engage people across Bristol in caring for, valuing and taking action for trees.
- Celebrate action for trees in Bristol, including responsible sourcing of products.
- Follow Forest of Avon Plan (FOAP)[3] principles for trees and woodlands (see **Appendix 2**).

2. Action and Support for Trees

2.1. Action for Trees

Bristol and its people have a long-standing commitment to trees and taking action for them. Since the formation of the **Forest of Avon Community Forest** in 1992, the city has been the focus of a planting effort involving many partners and communities. For example, since 2014 Bristol City Council's (BCC's) **One Tree per Child** programme supported by the WT and FoAT has worked with volunteers and schoolchildren and will reach a milestone of 100,000 trees planted during winter 23/24. Many street trees have also been planted and BCC recently worked with FoAT to run the **Green Streets** project, planting 590 new street trees in Wards with low tree canopy, in consultation with local communities.

More widely, the FoAT has produced Forestry Commission (FC) approved **woodland management plans** for all of BCC's woodlands and BTF has established a network of **Tree Champions** covering each council ward to help advise residents on tree issues. The Bristol Nature History Consortium (BNHC) organises the annual **Festival of Nature** at which partners celebrate the benefits of trees and run activities to engage people in them.

As well as BCC funded programmes, considerable grant-funding and business sponsorship has been secured for planting and caring for trees across the city. Partnership working has been critical to this and will underpin successful delivery of the BTWS.

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3 Available at: https://forestofavontrust.org/forest-of-avon-plan/

2.2. Public and Stakeholder Feedback

In March 2023 an on-line questionnaire survey and 2 stakeholder workshops were commissioned to inform the priorities in the BTWS.

2.2.1. Questionnaire[4]

This asked a comprehensive range of questions to determine the attitudes of individuals, organisations/ businesses to tree planting and care, and taking action themselves. It also identified any concerns people had about tree planting in their street. Over 500 responses were received, the majority from individuals.

Individuals

- **Planting** 91.6% supported the ambition of the One City Plan to double tree canopy cover, with 80.1% wanting more trees planted in parks and greenspaces, 59.8% wanting more trees planted in the pavement in their street. The principal concerns about street tree planting were leaves and potential damage to property.
- **Care** 86% strongly agreed/ agreed they would water a street tree in their neighbourhood during a dry spell.
- **Funding** 65.3% strongly agreed/ agreed they would donate to a crowdfunding campaign to plant trees in their neighbourhood with 40.9% being willing to sponsor a tree, a further 34.5% wanting more information.

Businesses

- 78.6% were interested in helping at tree planting events, with some interest in planting on their land and donations.

This was based on a small sample size and Action X in Section 5, seeks to better understand the motivations of business.

2.2.2. Stakeholder Workshops

These were both attended by 16 people representing a total of 14 organisations. The first workshop focused on the current situation, challenges and how to better manage and protect trees and woodlands. The second focused on action planning high impact priorities identified in the first: retaining existing trees, planting street trees, utilising open/ green space for tree planting, growing the power of communities, and building on partnership approaches.

Overall, the workshops identified the following as key to the BTWS. It needs to:

- Relate to existing strategies and inform others.
- Tap into, support and grow community activity.
- Engage people across the city and set out progress against targets.
- Identify priorities and support joint working to bid for funds.
- Grow the partnership of action for trees.

These are reflected in the Themes and Principal Actions in Section 5.

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4 Ref to the Questionnaire Survey if available on-line.

3. Policies for Trees

Bristol has agreed strong policies to response to the declared climate and ecological emergencies that will achieve a nature-rich and climate resilient future for all. These policies and associated strategies are driving significant change through all areas of the city. The BTWS works within this this policy framework to offer solutions, through the lens of trees, to some of the big problems we face today. By increasing tree cover and better managing our existing trees we can support communities in greatest need, help reduce the harmful effects of extreme heat caused by climate change and provide more space for nature.

The Bristol-based strategies are framed within national and regional policies, strategies and plans, and these are outlined in **Appendix 3,** alongside referenced Bristol policies.

The policies and plans highlighted include the One City Plan, which sets out an ambition to double tree canopy and the abundance of wildlife. The One City Ecological Emergency Strategy outlines key steps to achieve 30% of land in that is managed for nature. The One City Climate Strategy 2030 sets out a plan for a carbon neutral future and a climate resilient city.

The emerging Bristol Local Plan sets out policies for green infrastructure and biodiversity in new development requiring developers to maintain and incorporate important existing green features such as trees. Policies for Biodiversity Net Gain (BNG), expected to come in force from November 2023, will set a standard to protect existing biodiversity, and where loss is permitted, achieve 10% more nature. The Bristol Tree Replacement Standard will apply where BNG does not. The requirement for certain development to achieve an Urban Greening Factor, will set a minimum standard for the provision of green infrastructure to include provision of trees and natural drainage systems. A specific policy for Trees requires developers to provide tree-lined streets and addresses how to ensure existing safe and healthy trees are kept when new developments happen. The requirement for local authorities to consult on the loss of street trees will be introduced via the Environment Act 2022 (which also encompasses the requirement for BNG).

Bristol lies within the Forest of Avon Community Forest, and the FOAP 2021, sets out a long-term vision for trees and woodlands across the whole region and clear guiding principles for planting and caring for them. These principles are used as a golden thread for the delivery of this strategy.

Bristol City Council's new Parks and Green Spaces Strategy (PGSS) sets a clear target to increase tree cover and improve the management of existing woodland habitats. The BTWS uses the Tree Impact Criteria (TIC) to prioritise tree planting and wider activity where citizens will gain greatest benefit.

4. Trees and Woodlands

4.1. Distribution

Overall Bristol has a total tree canopy of 16.9%[5], slightly above the average for urban areas in England[6]. There is significant variation within this with Council Wards ranging between 9-26%. The most deprived Wards tend to have the lowest canopy cover[7] and access the quality-of-life benefits which trees deliver.

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5 The Tree Map for Bristol (2020) produced for BCC by the Bluesky company and adjusted to the land area of Bristol.

6 Available at: https://www.forestresearch.gov.uk/research/i-tree-eco/uk-urban-canopy-cover/

7 The Tree Map for Bristol and iTree Canopy Bristol (2018 and 2020)7 undertaken by Bristol Tree Forum

Addressing inequalities of disadvantage and equal access are key impacts of the Bristol Tree and Woodland Strategy.

[MAPS NEED TO BE ADDED ILLUSTRATING OVERALL PICTURE AND RELATIVE DISTRIBUTION BY WARD 9-26%].

Most woodlands in the city are owned by BCC and including Ashton Court and Stoke Park Estates which extend outside Bristol they total 686ha. The remaining woodland in Bristol has varied ownership including the private, charitable, education and public sectors. Not all ownerships are known.

BCC owns 54,500 specimen trees (the majority in the city), the remainder being universities, institutions, charities, businesses and by residents. The most important trees are listed on the Trees of Bristol website[8].

4.2 Character

Bristol's trees are distributed in woodlands, parklands, greenspaces, streets and gardens across the city.

Woodlands are principally deciduous. Focused on the Shirehampton, Blaise, Stoke Park and Oldbury Court Estates and the Avon Valley, smaller areas occur in parks and green spaces across the city. Pockets of woodland in Shirehampton Estate, Stoke Park, Oldbury Court and in the Avon Valley are **Ancient and Semi-Natural**. These have great nature conservation value, along with the Avon Gorge which is home to city's own **Bristol whitebeam** only occurring here and a few locations elsewhere.

Wood Pasture in some of the heritage estates is characterised by mature field trees in open parkland or pasture. **Ashton Court** owned by BCC, but within North Somerset, has one of the **largest groupings of veteran oak trees in England**, including the **900-year-old Domesday Oak**.

Veterans and other special trees occur throughout the city's woodlands, parks and gardens and include 134 champion trees (the largest and often oldest) such as the **giant Lucombe Oak in Stoke Lodge.** Other grand trees mark coronations, the Normandy landings, or are simply iconic because of spectacular shows of colour, like the **Judas tree in Castle Park**. [Ref Trees of Bristol]

Mature London planes are a characteristic of older streetscapes, but a wide range of street trees occur throughout the city. Recent planting is extending these benefits to streets with fewer trees. A **wealth of shrubs and trees also occur in private gardens** and as well as benefiting owners, they contribute much to wildlife, landscape and the liveability of the wider city.

4.3. Tree Planting

In 2022/23:

[USE INFOGRAPHIC]

- A. small and B. specimen trees were planted by BCC, funded by £C. from the FoAT's Trees for Climate (Defra) grant and £D funding from business sponsors.
- E. street trees were planted through S106 funding.
- F. WT tree packs were distributed.
- G. Volunteers supported One Tree per Child to deliver H. trees [CHECK TO AVOID DOUBLE COUNTING]

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8 Available at: https://bristoltrees.space/Tree/

4.3.1. Challenges

These include:

Practical
Space on BCC and other land on which to plant trees relative to other priorities.
Space in residential areas because of demand for roadside parking.
Health of planted trees may be affected by climate change and disease in the future.
Financial
Trees are a non-statutory service for BCC and for it and other partners budget priorities may constrain the numbers of trees planted, future funding to care for them and insure against liabilities.
Managing the impact of Ash Dieback Disease (ADD) is placing additional pressure tree budgets.
Grant funding for tree planting tends to be cyclical dependent on national policy, hampering delivery of long-term tree planting targets.
Planting in streets delivers the greatest benefits to people but is more costly due to factors including service infrastructure.
Perceptual
Planting in streets can be contentious due to concerns about damage to property, shade and/ or leaves.
Some landowners are unwilling to plant trees in public locations because of perceived liabilities.
Homeowners may lack confidence and knowledge about what to plant and where to source trees.

4.3.2. Opportunities

These include:
Impact criteria and opportunity mapping enable resources to be targeted in areas of greatest benefit on public land, with actions to extend this to private land in future.
Massive support for planting trees (see Section 2.1.).
Successful collaboration between BCC, FoAT, WT drawing in resources and engaging a wider partnership of interests.
Existing planting programmes like One Tree per Child which are delivering at scale.
Producing agreed species lists reflecting latest climate change and disease guidance and enshrining the principle of diversity will help future-proof planted trees.
Space available but not freely available .

4.4. Tree Care and Woodland Management

4.4.1 Challenges include:

Practical
16% of trees in Bristol are ash[9] and many may be impacted upon by ADD. BCC and other landowners have an important responsibility to monitor the condition of their ash trees and make safe those close to properties, highways and access routes, retaining those which do not pose a threat.
Private landowners and residents often lack information to assess the risk posed by ADD, which may result in unnecessary felling or liabilities for themselves/ third parties.

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9 Available at: https://forestofavontrust.org/for-trees/itree-the-benefits-of-trees

Woodlands generally have low levels of management, often even aged with a dense canopy and with low levels of light stifling natural regeneration and ground flora. Selective felling is required to address this, positively contributing to nature recovery, landscape and wider amenity.
Private woodlands often lack formal woodland management plans to guide their future management.
Climate change is likely to impact upon common woodland species in Bristol like beech and sycamore by 2080[10]
Climate change may increase vulnerability to disease, e.g. 30% of BCC's street trees [TBC] are from the Rosacea family.
Data on the ownership of woodlands (including tree belts and groups of trees) and/or the motivations of owners is incomplete, making coherent working to address issues more difficult.
Financial
Trees and particularly woodlands are not a top priority for BCC or other landowners when allocating budgets at a time of financial constraint.
Making ash trees safe is placing additional pressure on budgets for trees, which may also indirectly impact upon numbers of trees planted.
Woodland management plans need to be matched with resources to deliver the actions within them and maintain healthy woodlands delivering nature recovery and wider policy objectives.
Perceptual
Whilst the great majority of tree felling or tree works in Bristol is legally permitted, there is public concern about any work to trees. This is a particular issue when selective felling is required in woodland to ensure its long-term vitality and positive contribution to nature recovery and the climate emergency.
There is convenience of neglect to woodland management as it changes relatively slowly compared to other land uses and as such interventions become delayed, compounding management needs.

4.4. Tree Care and Woodland Management

4.4.2 Opportunities include:

These include:
Targeting management solutions in areas of greatest benefit, through Impact Criteria.
Drawing on the strategic importance of woodland as part of Bristol's Nature Recovery Network and focusing action to improve it.
Responding to ADD in woodlands provides an opportunity to thin/ reduce dense ash canopy, promoting enhanced natural regeneration and ground flora, delivering policy benefits.
Funding through Countryside Stewardship (CS) can support management plans, improve biodiversity and/or climate change resilience, and address ADD and wider tree health problems.
Bringing woodland owners together through the BTWS to consider synergies in their response to ADD and other tree diseases and deliver economies of scale in wider woodland management.
Drawing upon positive policies in place for woodlands, trees and hedgerows, such as The University of Bristol's Sustainability Strategy 2020-2025[11] to influence other landowners.
Promoting greater understanding of tree and woodland management issues and responses through BTWS.

A comprehensive list of challenges and actions for trees and woodlands is included in the Forest of Avon Plan[12].

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10 Available at: https://www.forestresearch.gov.uk/research/climate-change-impacts/climate-change-impacts-and-adaptation-in-englands-woodlands/regional-changes-in-england-in-tree-species-suitability-resulting-from-climate-change/

11 Available at: https://www.bristol.ac.uk/sustainability/policy-compliance/

12 Available at: https://forestofavontrust.org/forest-of-avon-plan/an-introduction/

4.5. Bristol, Trees and a Global World

Climate change and ecological emergencies are international issues and deforestation is a key factor in this. Through the BTWS we can take action not only to plant more trees and better manage our woodlands but lessen also promote the responsible sourcing e.g., how we choose to purchase only timber from well-managed sources such as FSC (Forest Stewardship Council) certified sources, and sustainably managed palm oil.

Add stronger reference to role and impact of:

- Citizens
- Organisations
- Business

Add more narrative on scale and drivers for international deforestation – and how we are all part of demand that is causing this problem – and that we can all actively be part of the solution.

Also add how as a city we can support tree planting in the city, but also chose to support international efforts to re-forest lands.

5. Themes and Actions

These draw upon the wide range of work which is already taking place, the views of residents and businesses and the priorities identified at the stakeholder workshops. The key principle of partnership working crosscuts each theme below.

Actions are focused on Flagship projects and other early priorities where the city can do most to address challenges, realise opportunities and deliver the aspirations of communities and stakeholders. Flagships because of their impact and profile will be attractive to funders and support wider engagement in the strategy (summarised in Section 6).

The BTWS is a dynamic partnership document and whilst themes will remain the same, actions will be revised as we progress, and partner involvement is welcomed at any stage.

5.1. Increase Tree Canopy -PLANT AND ESTABLISH MORE TREES-

VISION: A city of trees, where everyone is close to trees and directly benefits from them.

Where are we now?

Opportunity and Benefit Mapping for Trees

- **Parks & Green Space and Food Growing Sites** (PGFGS) have been assessed by BCC to identify potential to add tree canopy on this land (excluding allotments), based on a sample of sites. Using the key impacts of Indices of Multiple Deprivation (IMD), Urban Heat Stress Vulnerability, Nature Recovery and Tree Deficit to prioritise (scored 1-4), results were extrapolated across all PGFGS land. This identified potential to establish between **75-154 ha additional tree canopy** as a contribution to the One City target, (including from natural regeneration) depending on its use for other Parks and Green Space Strategy (PGSS) priorities.
- **Adopted Highways** a study through the University of Bristol has identified the potential to plant at scale trees within the adopted highway's network of roads and pavements. The next stage,

identified as an action in this strategy within a significant 'Street Tree Renaissance' programme is to quantify constraints and opportunities, including public support and investment options.

- **Private Land** BCC/ FoAT will be assessing potential to increase tree canopy in gardens. [Summary will be inserted here when available and related to the strong interest in the questionnaire survey] [REF] Wider mapping of private land is an action in this document.

Opportunity mapping sets out significant potential to plant many more trees in Bristol. Our challenge is to realise this in the context of a dynamic funding environment in which tree planting competes with many other priorities.

What will we do? We will:

- Play our part. We need to work together to increase tree canopy across the city. This includes the council as a landowner, but also the other significant landowners across the city in making space to plant trees on their land, and the role of homeowners who can plant smaller trees facing the street or larger trees in rear gardens, where space permits.
- Draw upon significant funding for tree-planting through governments' Nature for Climate programme, including Trees for Climate grant from the FoAT[13].
- Focus investment (including through BNG) and activity on opportunity and benefit mapping delivering the four key impacts.
- Develop and bid for funding for Flagship Projects, maximising impact and through this further raising the profile of the BTWS.
- Work individually and collectively to influence national, regional and Bristol tree policy and funding
- Identify broad lists of appropriate species for planting in gardens, streets, parks, greenspaces and woodlands in the city. These will reflect climate change and disease modelling, the principle of species diversity, place emphasis on native species in copses and woodlands and reflect the character of existing tree populations. We will seek adoption of this across BCC Departments and other organisations.

Principal 5- Year Actions

Ref	Action	KPI*	Agency(s)
TC1	Deliver **Bristol's Green Canopy Flagship Project**, realising mapped potential to plant 50ha+ tree canopy on PGSS land, working through One Tree per Child.	Business case developed 2024, Short-term opportunities realised through Trees for Climate, other grants 2024-26	**BCC****
TC2	Deliver **Street Tree Renaissance Flagship Project**, realising mapped potential to plant x street trees on Highways Land.	Business case developed 2024, 1st phase funding secured xxxx Xha tree canopy planted yyyy	**BCC**
TC3	Deliver **Bristol's Garden Forest Flagship Project**, 5-year project, realising the mapped potential to plant in gardens, providing information about trees and targeted tree purchase subsidies .	Funding proposal produced, presented to potential funders, funding secured	**FoAT**
TC4	Deliver **The Bristol Orchard Flagship Project** 5-year project realising potential to plant on mapped greenspace, and private land.	Trees planted by year, by location & ownership	**BCC**
TC5	Map non-residential open land, not owned by BCC, to establish possible tree planting areas.	Partners identified, land mapped, landowners established, ha canopy delivered	TBC, possible role for Tree Champions

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13 Available at: https://forestofavontrust.org/for-trees/trees-for-climate

TC6	Prioritise planting sites reflecting opportunity and benefit mapping, to target BNG credits.	Initial priorities identified 2023	**BCC, UoB** others TBC
TC7	Define broad species lists for a range of planting in Bristol, based on latest research, policy and practice.	List agreed, related to BNG, available on Data Hub: part of right tree, right place guidance	**BCC, WT, FoAT FC**
Cross Cutting Actions			

CC1	Create Bristol Tree Data Hub hosted by FoAT and with links to partner websites, setting out:
	
	• Priorities for tree and woodland planting incorporating:
	   - Baseline tree canopy data and monitoring
	   - Guidance and information
	   - Impact criteria
	   - Mapping of tree planting opportunity.
	• BCC/ landowners' responsibilities for trees including tree safety, how to care for/manage them, planning and permitted tree felling, tree replacement standards and where to get tree services from.
	• How responsible sourcing can benefit trees globally.
		Hub established 2024
		All information added 2025
			FoAT, supported by BCC, WT, BTF

CC2	Measure, review and report on Bristol's Tree Canopy, reflecting activity across all 4 themes.	Canopy measured 3- yearly from 2024, ecosystem service value recalculated 4-yearly, from 2024	**FoAT**

*KPI: Key Performance Indicator **Bold text: lead agency(s)

> **Case Study: Lambeth Kerbside Strategy (2023)** [14]commits Lambeth Council to reclaiming at least 25 percent of kerbside space from vehicle parking. With objectives of enabling accessible and active travel, creating social spaces, increasing climate resilience, and reducing traffic and emissions, it will allow for Sustainable urban Drainage Systems (SuDs) to reduce flood risk, plant new street trees, and create green spaces to provide shade. **With consultation, a similar approach could create space for additional street trees in Bristol.**

5.2. Protection -LOOK AFTER THE TREES WE HAVE-

VISION: Trees across the city are protected, cared for and replaced in line with best practice.

Where are we now?

Bristol's trees are protected, cared for and replaced through:

- Policies in the **Bristol Local Plan (Publication draft 2023 TBC)** (see section 2).
- Application of the **Bristol Tree Replacement Standard (BTRS)** (see section 2 and Case Study below).
- Statutory protection through **Tree Preservation Orders, Conservation Areas (CAs) and Felling Licences**. Approximately 33% of trees in Bristol are in CAs.
- **Provision of advice and services** by professional tree management companies.
- Use of **risk management policies** which define tree safety assessments in accordance with **national QTRA standards (Quantified Tree Risk Assessment).**
- **Provision of information on tree felling and canopy lost** in the BCC annual tree planting report**.**
- **Promotion of trees and their benefits** by BCC, FoAT, BTF and WT.
- **Engaging people in action for trees** by BCC, FoAT, BTF and Trees Champions, and WT.

For details of the wider policy context for trees, see Section 3 and Appendix 3.

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14 Available at: https://love.lambeth.gov.uk/your-streets-your-way-2023/

Concern over Tree Felling and Maintenance

There is public concern over tree felling in the city, heightened by the contentious approach by a small number of councils elsewhere. It is right to protect trees and to stop indiscriminate felling through planning policy and tree protection including Tree Preservation Orders. But it is important to note that trees need to be managed and in certain circumstances tree removal is the most appropriate action, for example when a tree is dangerous, or causing significant harm or woodland thinning will support a good habitat and growth of remaining trees.

What will we do? We will:

- Draw upon the strong interest in trees to support further a 'tree positive culture' within communities, which builds understanding of the benefits of trees, the dynamics of a tree's life, the need for care and management, and the opportunities trees present to take positive action on the climate and ecological crises. Community based organisations and individuals have an important role in achieving this, complementing BCC's statutory responsibilities for trees.
- Address concerns about tree works and felling by providing clear information about roles, responsibilities for trees; provide timely information on tree works, going beyond minimum legal requirements as necessary. As part of this we will develop closer working between BCC, utility companies and others whose operations directly impact on trees.

Principal 5-year Actions

Ref	Action	KPI*	Agency(s)**
PT1	Complete mapping and status reports for veteran, champion and other irreplaceable trees, and ancient and planted ancient woodlands.	Mapping, status reports complete	TBC **BTF?**
PT2	Publish guidance on how tree protection works to support communication of proposals to fell/ manage trees, hosted on the Bristol Tree Data Hub.	Updated info agreed, available	**BCC**, FC
PT3	Organise summit between BCC, utility companies, agencies with operational land and others whose work impacts upon trees in Bristol to discuss issues, share and develop tree policy and practice.	Summit organised, No. subsequent meetings if necessary	**BCC**, Bristol Water, Wessx. Water, Network Rail and others.
PT4	Review, update and extend the Bristol Streets Guide, making specific reference to minimising harm to street trees during street works and creating more opportunities to plant them.	Updated guide produced and promoted	**BCC**
CROSS CUTTING ACTIONS			
CC1	Create Bristol Tree Data Hub hosted by FoAT (detail under TC Actions)	Hub established 2024 All information added 2025	**FoAT,** supported by BCC, WT, BTF
CC2	Measure, review and report on Bristol's Tree Canopy (detail under TC Actions)	Canopy measured 3- yearly from 2024, ecosystem service value recalculated 4-yearly, from 2024	**FoAT**

*KPI: Key Performance Indicator **Bold text: lead agency(s)

Case Study: Bristol Tree Replacement Standard (BTRS)[15]

Nationally seen as best practice, this relates the diameter (and benefits) of the tree felled to the number of new trees to be planted to mitigate the impact of a development. With contributions reflecting the location of the trees lost, the policy sets out that tree planting on public land is undertaken by the council, as is planting where replacements cannot be located within the development site. A slightly updated BTRS lowering the size class to 7 cm and removing the ambiguity of 0-1 tree replacement for the lowest category, will be retained alongside Biodiversity Net Gain (BNG) applying where BNG does not. Both will be incorporated into Policy BG4 of the Publication Draft of the Bristol Local Plan.

5.3. Management -TREES FOR THE FUTURE-

VISION: Tree populations are in good condition, able to respond to changing climate and impacts of disease.

Where are we now?

Woodlands

BCC's woodlands (the majority in the city) have FC approved WMPs due to be revised 2024-2026. Whilst trees in BCC woodlands are managed according to a Quantified Tree Risk Assessment (QTRA) in line with its Ash Dieback Plan, wider management been limited due to factors including core and external grant funding. [Where designated a Site of Nature Conservation Importance (SNCI), more detailed surveys have been undertaken of BCC woodlands, indicating that Xha is in active management].

Significant areas of other woodland are in protective ownership e.g. The University of Bristol, UWE and the National Trust, with other woodlands owned by Network Rail and Highways England and managed according to operational objectives. Not all ownerships are known.

Across Bristol, woodland generally has limited management and is not delivering its potential for Nature Recovery and more widely in terms of climate change mitigation, amenity and landscape.

Individual Trees

BCC owns 54,500 specimen trees (the majority in the city) which are managed in line with QTRA protocols. Other individual trees are owned by the universities, institutions, charities, businesses and by residents. Larger landowners have QTRA procedures in place, whereas residents are reliant on their own assessment of risk and subsequent advice of consultants/ contractors.

As with the felling of individual trees, there is often public concern about woodland management practices. In this context clear and advance communication of objectives by all landowners is critical.

What will we do? We will:

- Identify all woodland owners, establish their objectives and needs, and focused on Flagship Project delivery, support them as necessary to prepare management plans and/or make interventions to support their contribution to Bristol's Nature Recovery Network in the context of ADD and projected climate change, We will update BCC's WMPs as part of this approach, setting out management strategies to bring them into good condition, in line with PGSS targets, drawing down CS grants to produce plans and deliver actions in them.

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15 Available at: https://www.bristol.gov.uk/residents/planning-and-building-regulations/planning-policy-and-guidance/supplementary-planning-documents-practice-notes-and-other-planning-guidance

Draft v3.1

- Promote the best practice of the BCC Ash Dieback Plan to other landowners in the city and more widely highlight landowner responsibilities in terms of ADD. This will include setting out duties under the Highways Act and Miscellaneous Provision Act on the Data Hub.
- Support woodland owners to put in place policies to protect and sustain woodlands, underpinning future care and resources.

Principal 5-Year Actions

Ref	Action	KPI*	Agency(s)**
M1	Deliver **Bristol's Natural Woodlands Flagship Project** realising the potential to get all SNCI, SSSI or NNR (priority) woodlands into positive management.	Business case developed 2024, short-term opportunities realised through CS from 2024, Funding secured, % positively managed	**FoAT** BCC significant land owner lead
M2	Audit ownership of non-BCC woodlands to determine condition and management intentions.	Funding secured; audit undertaken	FoAT? WT consultant (research)
M3	Contact private woodland owners to promote woodland management and where grant is available, support preparation of FC WMPs.	No., % woodlands with WMPs, actively managed	FoAT
M4	Renew FC approved WMPs for all BCC owned woodlands	No. % woodlands managed to PGSS target	FoAT/ consltnt BCC
M5	Determine potential for a city-wide approach to woodland management to achieve favourable condition and help sustain long-term management	Discussions held with landowners and potential partners, feasibility report produced in context of FC/ other grants	FoAT? FC? BCC, WT
M6	Tree owners to monitor and manage their (ash) trees, drawing upon best practice of BCC and FC guidance.	Partnership group formed, best practice disseminated	BCC, UoB, UWE, Network Rail
CROSS CUTTING ACTIONS			
CC1	Create Bristol Tree Data Hub hosted by FoAT (detail under TC Actions)	Hub established 2024 All information added 2025	**FoAT,** supported by BCC, WT, BTF
CC2	Measure, review and report on Bristol's Tree Canopy (detail under TC Actions)	Canopy measured 3-yearly from 2024, ecosystem service value recalculated 4-yearly, from 2024	**BCC**

*KPI: Key Performance Indicator **Bold text: lead agency(s)

Case Study: Woodland Management Plans for Bristol's Woodlands

Between 2014-16 the FoAT was contracted by BCC to produce WMPs for its heritage estates, parks and greenspaces with woodland. Attracting grant support from the FC, 10-year management strategies address issues such as invasion by ornamental shrubs, limited natural regeneration and creating space for ancient, candidate veteran and veteran trees. The FoAT secured FC grants to fund an initial phase of work by BCC, also improving public access in key areas. **Renewal of these WMPs and preparation of ones for other owners provides an important opportunity for a unified approach to woodland management (including Ash Dieback) across Bristol and to achieve economies of scale in management operations.**

5.4. Participation -TREES FOR EVERYONE-

VISION: **Everyone can access information and support to enable them to plan, plant and care for trees.**

Where are we now?

The tree questionnaire (Section 2.2.2.) shows communities strongly support more tree planting and that with greater information they would care for local trees, plant them in gardens and help fund more in their neighbourhood. Business responses set out a similar commitment, mirroring responses to OTPC and campaigns like Replant Bristol.

Drawing on work to create the Forest of Avon Community Forest there is a culture of partnership working for trees in Bristol, including through BCC, FoAT and WT, as well as strong community-based activity supported through OTPC, BTF, Parks and community groups.

BTF and its Tree Champions, Postcode Wildlife Groups, Friends of Parks Groups and many others have a strong interest in and knowledge of local areas and will have an important role in helping to engage and involve more local people in suggesting locations for trees and planting and caring for them.

What will we do?

Responding to and developing this strong interest in trees, we will:

- Use the Data Hub to promote the benefits of trees, how people can get involved and where planting opportunities are (drawing on opportunity and benefit mapping).
- Bid for funding to further develop and support local capacity to help plan, plant, care for and manage trees and woodlands.
- Celebrate local action for trees and woodlands, growing interest in them.

Principal 5-Year Actions

Ref	Action	KPI*	Agency(s)**
PP1	Deliver **Our Tree City Flagship Project** to support and grow the role of Tree Champions, community groups, individuals and volunteers in planting and caring for trees and supporting woodland management.	Business case prepared, bid submitted, training days delivered, trees planted, m2 woodlands improved	BCC, FoAT, WT, Others TBC
PP2	Deliver **Business Trees Flagship Project** drawing on One Tree per Employee and Replant Bristol, to run annual business campaigns, providing engagement and funding for tree planting and woodland management across the city.	Business case prepared, bids submitted, £s raised annually	**FoAT, WT, BCC**
PP3	Grow role of BTF Tree Champions to include: • Advising people on tree issues and proposals. • Supporting people in planting, caring for and managing trees. • Adding and updating Tree Data Hub content. • Engaging people in experiencing and celebrating trees and woodlands.	Funding secured (see PP1), activity days undertaken	**BTF** (TBC)
PP4	Expand range of sponsorship options enabling individuals and organisations across the city to support local tree planting, care and woodland management.	Complementary suite of sponsorship options produced, promoted on Data Hub	**BCC, FOAT, WT, BTF**

PP5	Organise Bristol Tree & Woodlands celebration.	Annual celebration as part of Bristol Festival of Nature.	**FoAT, WT, BCC, BTF, BNHC**
PP6	Apply to become a Tree City of the World.	Application made	**FoAT**
CROSS CUTTING ACTIONS			
CC1	Create Bristol Tree Data Hub hosted by FoAT (detail under TC Actions)	Hub established 2024 All information added 2025	**FoAT,** supported by BCC, WT, BTF
CC2	Measure, review and report on Bristol's Tree Canopy (detail under TC Actions)	Canopy measured 3- yearly from 2024, ecosystem service value recalculated 4-yearly, from 2024	**FOAT**

*KPI: Key Performance Indicator **Bold text: lead agency(s)

Case Study: East Bristol Liveable Neighbourhood Pilot[16] is based on Barton Hill, and parts of Redfield and St George. BCC undertook the pilot phase in autumn 2022 and using a design toolkit of options local people identified pocket parks and street trees amongst priorities. A trial scheme will run in autumn 2023, including 10 trees in planters, to help people visualise the contribution trees will make to their streets. **This and any future Liveable Neighbourhood Projects provide an important way to agree locations for more street trees, shrubs/ fruit trees in pocket parks and with adapted consultation, a means to promote garden trees.**

6. Resources

6.1. Tree Canopy Target

The questionnaire (Section 2.1) identifies how important the ambition of doubling tree canopy cover is in setting out the scale and urgency of the tree planting required in Bristol. Our target of planting an additional 795ha tree canopy cover by 2046[17] reflects this ambition. To achieve it will require significant and sustained investment. For example, it would require planting, establishing and managing 175,000 individual trees in streets, gardens and greenspaces costing c.£675 million at 2023 prices (£29 million per annum), discounting economies of scale and tree benefits. Alternatively, 50ha new woodland and 50ha natural regeneration plus 172,000 individual trees would cost: £672 million.

Direct and indirect benefits of such an investment are significant and will become more important as the climate and ecological emergencies grow. iTree Eco Bristol (2018)[18] shows that Bristol's trees and woodlands contributed annual environmental management services benefit of £2.7 million, as well significant growing contributions health, prosperity and wider quality of life **(see Appendix 1)**.

Work already undertaken and actions as part of the BTWS will determine the amount of public land which is available to plant trees relative to other strategic priorities and the contribution that private land can make. This may result in the target being revised downwards, but cross cutting all our work will be prioritisation of all tree planting to where it delivers the greatest benefit, as determined by the Impact Criteria.

6.2. Flagship Projects

As part of the 5-Year Action Plans, an early priority is to develop transformational Flagship projects which will be attractive to funders, deliver against wider actions and generate profile. These will be quickly

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16 Available at: https://eastbristolliveableneighbourhoods.commonplace.is/

17 Based on doubling tree canopy cover from iTree Eco canopy cover estimate of 12%

18 Available at: https://forestofavontrust.org/for-trees/itree-the-benefits-of-trees

submitted when new funding becomes available and used as a basis to approach potential sponsors and donors. Subject to further feasibility work, these will include:

Ref	Project	Summary	Partners	Scale (2023)	Potential Funding
TC1	Bristol's Green Canopy	Realise mapped potential to plant 50ha tree canopy as copses and woodland on PGSS land, working through OTPC. Scope for natural regeneration adjacent to existing woodlands in less-visited areas. Funding for trees and staffing,	BCC	£2 million planting, Natural regen areas half the cost	BCC, BNG, FoAT Trees for Climate, England Tree Planting Prog
TC2	Street Tree Renaissance	Realise potential to plant in streets and highways, prioritised to areas of greatest benefit. Links to West of England 1000 Green Streets project. Funding for trees and staffing.	BCC	£42 million for 50ha canopy/ 11,000 trees	BCC, WECA, S106, BNG
TC3	Bristol's Garden Forest	Realise potential to plant in gardens, providing subsidised trees. 5-year project including information, guidance, a role for Tree Champions and funding for coordinating capacity.	FoAT, BTF, BCC	£300,000	Sponsorship
TC4	The Bristol Orchard	Inspired by work undertaken, combine local food growing with community-led planting to create a network of productive orchards, across the city. Links to West of England Community Orchard project. 5-year project to include funding for coordinating capacity and training.	FoAT, BCC,	£450,000	Grants, sponsorship, BNG
M1	Bristol's Natural Woodlands	Realise the PGSS action to get all SNCI, SSSI or NNR (priority) woodlands into positive management, making a key contribution to Nature Recovery. To include funding for coordinating capacity, incentivising action and improvement works.	BCC, FC, Private landowners	£50 million	BCC, FC grants
PP1	Our Tree City	Support and grow the role of Tree Champions, community groups, individuals and volunteers in planting and caring for trees and supporting woodland management. Links to the West of England One Tree per… project. 5-year project to include coordinating/training capacity.	BCC	£350,000	BCC, grants, sponsorship
PP2	Business Trees	Draw on One Tree per Employee and Replant Bristol, to run annual business campaigns, providing engagement and funding for tree planting and woodland management across the city. 5-year project funding internal or external capacity	FoAT, WT, BCC, BTF, consultants	£50,000 in house, £175,000 if not	WT, WECA

6.2. Delivery

We will establish a Bristol Tree and Woodland Group reporting to the One City Environment Board. Formally constituted, this group would meet quarterly and be responsible for progressing actions in the

BTWS and reporting on progress. A relatively small, focused group, there would be opportunities for wider partners to attend to discuss and help progress key actions. An annual celebration linked to the Festival of Nature would showcase work undertaken, particularly by communities and volunteers.

Appendix 1: Tree & Woodland Benefits

(Abridged from p38-39 of the Forest of Avon Plan[19].)

Health & Wellbeing

Trees, and the natural environment more generally, provide a range of benefits to both our mental and physical health. In urban areas, trees mitigate asthma and breathing conditions by filtering air borne pollution, provide cooling and shade during heatwaves, and lower stress levels. Trees also contribute to safer communities: research suggests that housing associated with trees and greenery suffer from less crime and their inhabitants feel safer. There is even evidence that trees benefit hospital patients' recovery times: less time is spent in wards with views of trees. Woodlands provide recreational opportunities for people in both cities and the countryside, increasing physical activity levels and otherwise improving both physical and mental health. Visiting forest (woodland) environments can help lower blood pressure and pulse rate, reduce cortisol levels, and suppress sympathetic nervous activity. Additionally, children growing up in green spaces have a lower risk of psychiatric disorders later in life.

Economy

Aside from their value from contributions to health and wellbeing (it is estimated that universal access to good-quality greenspace would save the NHS £2.1 billion a year), trees provide numerous other economic benefits that make them worthwhile investments: Green environments increase businesses' patronage by 30-50% and willingness to spend by 10-50% Green environments improve productivity by 15%, reduce staff turnover by 18% and reduce the amount of sick leave taken by 10-23%. Quality of life is a factor in the relocation of 57% of business executives and people pay 3-7% more to live on tree-lined streets, and so trees can support inward investment. Woodlands also reduce flash flooding, thereby reducing the economic (and social) impacts of flooding events and can provide a range of other sustainable products (such as timber and fuel) that support a thriving local economy. Additionally, woodlands offer recreational opportunities, such as walking routes, mountain biking trails and activity centres, which can bring in both direct and indirect employment.

Mitigating & Adapting to Climate Change

Trees and woodlands will be crucial in both mitigating (by sequestering and storing carbon) and adapting to climate change. The UK Committee on Climate Change (CCC) recognises the role that trees and woodlands will play in reaching net zero and recommends that at least 30,000 ha of woodland should be created annually to do so. Locally produced wood can also provide a low- or zero-carbon source of fuel by offsetting fossil fuels, and timber can act as a lower-carbon construction material than steel and concrete. Trees and woodlands will also be critical in adapting to climate change: providing corridors for wildlife to travel through to adapt to a warmer climate, keeping rivers cool, providing shade and cooling in hotter urban areas, and reducing the severity of flooding caused by climate change.

Nature

From ancient woodlands to hedgerows and urban parks, trees are a vital element of ecosystems, providing food, habitat and nesting sites for a huge number of species. Sixteen species of bird on the BTO's red list are woodland species and rare populations of greater and lesser horseshoe bats are dependent on trees and hedgerows for foraging; and countless species of insects rely on trees and woodland.

Water Management

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19 Available at: https://forestofavontrust.org/forest-of-avon-plan/the-evidence-base-for-this-strategy

Trees and woodlands are crucial to delivering an improved water environment. Well managed riparian habitat that includes trees is critical for both in-river wildlife (for example, through the shading of rivers) and terrestrial wildlife (through providing ecological corridors), and for improving water quality.

Soil & Agriculture

From hedgerows to agroforestry, trees are a vital component of sustainable agricultural systems: protecting soil (trees and other vegetation can reduce soil erosion and soil loss), shading livestock, and increasing yields.

Culture

Apart from the more tangible benefits outlined above, trees also have strong cultural and spiritual value, providing a sense of place and bringing communities together. Our ancient and veteran trees may have been around for hundreds of years, providing a continued sense of identity.

Appendix 2. Principles for Tree & Woodland Establishment and Management
(Abridged from p of the Forest of Avon Plan. Complete list available at)

Principles providing high-level guidance for those wanting to plant trees, create new woodland and manage existing woodland are set out in detail in the Forest of Avon Plan approved by BCC. Produced and consulted upon by the West of England Tree & Woodland Group they align with and complement regulations including the Forestry Act 1967, Environmental Impact Assessments and Habitats Regulations, as well as existing guidance and best practice, such as the UK Forestry Standard or guidance produced by industry leaders.

Ecosystem Services

Nature's Recovery

- The creation of new woodlands should, where possible, be close to and join existing woodlands, to assist in the creation of a coherent ecological network in the West of England. The Tree and Woodland Priorities by Landscape Character Area included in this document, which reflect the West of England Nature Recovery Network and other evidence, should be used to guide tree planting and woodland creation.
- Woodland should not be planted on existing ecologically valuable grassland, which is an important and vulnerable habitat. Additionally, areas identified as being within the strategic grassland network for the West of England should be prioritised for grassland creation and conservation.
- A range of wooded habitats, including woodland, hedgerows, riparian corridors, open wood pasture and urban trees, will strengthen the ecological network.
- The possibility of creating mosaic habitats (an area or site comprised of multiple habitat types) when creating woodland should be considered. In areas that are within two or more of the woodland, grassland and wetland strategic networks of the West of England West of England Nature Recovery Network, mosaic habitats should be prioritised.
- Natural colonisation (otherwise known as natural regeneration) should be considered as an (often cheaper) alternative to tree planting, as it can result in the establishment of trees better adapted to local conditions and provide a composition of trees more suited to native wildlife. Natural colonisation can be especially effective next to existing ancient or seminatural woodland as a means of expanding the most valuable woodland habitats.
- Any woodland planted should be an appropriate mix of species for the site and reflect the management objectives in question. Native species should be planted where possible, especially when nature's recovery is the priority, although the use of more southerly seed sources may be appropriate as part of adaptation to a changing climate.
- Woodlands, once established, should be managed to deliver objectives including maximising benefits to wildlife, and especially of specialist woodland species that are threatened.

- The planting of hedgerows, including but not limited to farmland, should be used to connect existing hedgerows and woodland where woodland creation is not possible. Hedgerows or wider shrub belts, if planted, should be of a suitable mix of native species and maintained in a way that maximises benefits to wildlife. When introducing more southerly species, measures should be taken to avoid introducing pests and diseases. The ideal mix may depend on the location where the hedgerow is planted. Hedgerows should also include irregularly spaced trees, which can be promoted through design codes.
- Riparian habitat (habitat on and alongside the banks of rivers) can act as natural ecological corridors through which wildlife can travel, as well as enhancing in-river ecology, providing natural flood management and improving water quality. Trees and woodland are a vital component of riparian (i.e. riverbank) habitat. BART's approach to tree planting should be referred to inform riparian habitat creation and management.
- As well as better managing our existing woodlands for wildlife, we need to protect our trees and woods from being lost to development and other pressures. Ancient woodlands, and ancient and veteran trees are afforded protection against development because of their irreplaceable nature (per NPPF para 175c); planning decisions must enforce this. Beyond ancient, wooded habitats, no woodland should be lost, except where there is an environmental gain to a changed land use (e.g. removing trees on peatland or wetland) and, in this case, the EIA process must be followed and voluntary replacement planting should be carried out as good practice. Tree planting should not be used as compensation for the loss of woodland; compensatory measures can take decades to become established, representing lost years of crucial carbon storage and wider environmental benefit.
- Individual and groups of trees in rural or urban areas contribute much to ecological networks as well as landscape quality, cultural identity, and health and wellbeing. As capacity allows, advice should be provided and good practice promoted to landowners to safeguard, care for and, when appropriate, replace these trees. Accepting that urban trees are part of a dynamic system, community groups can have an important role in championing individual trees and building support for new ones.

Climate Change

- Planting trees and creating woodland, including allowing woodland to regenerate naturally, are recognised as an effective means of sequestering carbon and building resilience to the impacts of climate change in response to the Climate Emergency.
- Retaining, restoring and enhancing existing woodlands should be used as an effective way of storing carbon. Protecting existing woodland, especially ancient woodland, is important for maintaining stored carbon, and well-managed, healthy woodlands store more carbon than poorly managed ones.
- Much of the carbon sequestered by woodland trees is stored in the soil; therefore, avoiding soil disturbance is important in maximising carbon sequestration. Continuous cover management regimes avoid the release of carbon back into the atmosphere through planned thinning and reduced disturbance of soil.
- Although it is recognised that coniferous species can sequester carbon more quickly than native broadleaved species, maximising the carbon storage potential of woodland should not prejudice nature's recovery, especially in ecologically sensitive areas and within the Nature Recovery Network. The principle of the right tree in the right place should be followed, which is key to providing more and better-connected habitat for wildlife (see above), and for a healthy, functioning natural environment.
- Native or naturalised broadleaved species that are good for carbon sequestration in the West of England include aspen, beech, wild cherry, and sycamore, although the impacts of climate change on the future viability of these species (especially beech and sycamore) needs to be considered.
- Productive woodlands, including the provision of wood fuel, the use of timber in construction, and the use of trees to create other products (such as those that can be made through coppicing) should be considered as ways of decarbonising parts of the economy – see 'Sustainable Woodland Economy'.
- Genetic diversity (evolved through natural regeneration), as well as species diversity, is understood to be important in ensuring the resilience of woodlands to a changing climate.
- Trees and well-connected woodland should be used to build resilience to climate change and to adapt to a changing climate through, for example, providing shade and cooling effect in urban areas, managing flood risk, and enabling woodland species to travel through the landscape.

Natural Flood Management

- The potential for woodland to provide natural flood management should be considered when identifying locations for tree planting and woodland creation, especially in upland areas and in appropriate parts of the floodplain. The WENP Ecosystem Service Opportunity Map: Water Quantity, shows areas where the opportunities are greatest to modify the land so it can absorb and store water more effectively and should be used to inform the use of woodland for natural flood management.
- 'Working with Natural Processes' identifies areas of potential for additional floodplain woodland, riparian woodland and catchment woodland within England and Wales. As indicated in the Working with Natural Processes Evidence Directory, using the correct combination of measures in the right place can help to slow flood peaks and also achieve other benefits at the same time, including improving water quality; reducing soil erosion and sedimentation of lakes and rivers; increasing carbon capture and storage; and creating new habitat to restore biological diversity.
- Additionally, expert advice (from, e.g. the Woodland Trust, the Forestry Commission, the Bristol Avon Catchment Partnership, Bristol Avon Rivers Trust, or the Environment Agency) should be sought to identify the optimal location and planting/regeneration scheme to provide maximum benefits to flood management.

Health, Wellbeing and Culture

- The location of new woodland and tree planting should be chosen considering the potential benefits that woodlands and trees provide to people's health and wellbeing, and to promote equitable access to woodland to all populations, irrespective of socio-economic status.
- Landscape character and important views should be considered carefully when establishing new trees and woodlands, with certain areas recognised as being unsuitable for large-scale woodland creation. The Tree and Woodland Priorities by Landscape Character Area account for this, but more detailed guidance as contained in Landscape Character Assessments should also be consulted where appropriate.
- The planting of trees and woodland in urban areas, including in parks and streets, is recognised as especially important to people's health and wellbeing. Suitably chosen urban trees can contribute much to people's physical wellbeing through providing a cooling effect, providing shade and reducing air pollution. The presence of and engagement with trees close to where people live also provide important mental health benefits.
- It is recognised that areas with low canopy cover and deprived areas will benefit most from tree planting, which can help address issues of inequity. Therefore, canopy cover and the Index of Multiple Deprivation should be used to prioritise tree planting, especially in urban areas providing shade and reducing air pollution.
- The Woodland Trust's Woodland Access Standard should also be applied, which aspires that: no person should live more than 500m from at least one area of accessible woodland of at least 2ha in size; and there should also be at least one area of accessible woodland of at least 20ha within km of people's homes61.
- The involvement of local communities in tree planting, maintenance and management can provide additional benefits to people's physical and mental wellbeing and broaden the constituency of support and action for trees and nature.
- Public rights of way as well as other paths should be accommodated and enhanced within the design of new woodland, and new routes created to extend and improve local access networks, whilst reflecting wildlife, management and/or safety considerations. New public access should not be provided in SSSIs, Ancient Monuments and other sensitive sites without the approval of the statutory regulatory body.

Managing Woodlands for Ecosystem Services

Sustainable Woodland Economy

- Management techniques that provide an income source while providing other benefits for people and wildlife should be considered as a way of enabling sustainable management of woodland. This could include, but is not limited to, timber production, coppicing, agroforestry including wood pasture, wood fuel production, the use of grazing animals for food, recreation, wellbeing activities and forest schools.

- The effect of any potential management technique used to provide an income source on wildlife and people must be considered– not all woodlands will be suitable for all management techniques.
- There is significant demand for timber; currently, the UK imports the vast majority of its timber. However, due to the impact of grey squirrel populations among other factors, it is difficult to grow broadleaved species for timber; coniferous forests therefore currently provide the most viable method of timber production. However, productive woodland managed for timber can be managed sympathetically to biodiversity and other ecosystem services. Continuous cover management regimes, which attempt to mimic natural processes, are effective for production and biodiversity aims, and areas of native woodland managed for biodiversity objectives should be integrated into productive woodlands. The UK Forestry Standard is a good source of guidance.
- Coppicing should be considered as a management technique that can produce woodland products, provide an income source and benefit wildlife (including many threatened species).
- Woodlands can provide opportunities for active recreation, which can make them accessible to a broader range of people, provide employment and bring in income to enable woodland management (and establishment). As well as walking trails, recreational activities that may be suitable for parts of new woodland include mountain biking and adventure sports such as ziplining or obstacle courses. The impact of these activities on woodland ecology should be minimised and fully addressed in site management plans if they are pursued.
- Large scale woodland creation should generally be avoided on high-quality agricultural land, and especially on Grade1 and 2 agricultural land which can be used for sustainable food production. On these sites, better management and expansion of hedgerows, field corners and in-field trees still provide excellent opportunities for improving soils, ecological connectivity, water management and carbon storage.
- Agroforestry may be a suitable management technique to combine food production with tree planting in areas of high agricultural productivity and is relevant to both arable (silvoarable) and grazing (silvopasture) systems. The Agroforestry Handbook provides useful, practical guidance on this approach.
- Orchards have been traditionally important in the West of England. Well-managed, they can provide a source of sustainable food while benefiting wildlife and sequestering carbon. Existing traditional orchards should be conserved, and new ones created where possible.
- Grant schemes should be considered as a means of financing tree planting or natural regeneration. Additionally, there is potential for funding for habitat creation through Biodiversity Net Gain and agricultural subsidies under revised agricultural policy.

Sustainable Woodland Management

- Management techniques should be mindful of the site in question and especially of neighbouring habitats. It is usually advisable to try to extend existing habitats through suitable management and creation.
- Continuous cover management regimes, as well as providing important water attenuation and biodiversity benefits, are key in maintaining species and age diversity, and avoid the release of carbon back into the atmosphere through planned thinning and reduced disturbance of soil.
- To enable effective natural regeneration/ colonisation, a diverse woodland, a prevailing wind, and suitable soil will be required. Additionally, prevention of overgrazing from deer will usually be necessary and other management interventions may be required over time to ensure species diversity.
- If tree guards are used when planting trees, they should be removed when they split and before they start to disintegrate. Used tree guards should be removed from the site to protect local wildlife and disposed of responsibly (ideally by recycling).
- Weeding around a tree may be necessary to ensure the survival of planted trees. If doing so, 'natural' methods for suppressing weeds (e.g. using mulch, such as bark chips or straw bales) should be used in preference to the application of chemical-based products, which can be detrimental to wildlife.

Ash Dieback

- Trees affected by ash dieback should be felled only when there is a material safety risk, a clear future safety risk (e.g. for roadside trees or high-use areas), or as part of normal silvicultural operations. Organisations will

have their own definition of what presents a material safety risk, but the Woodland Trust's zoning approach or the Quantified Tree Risk Assessment are recommended. Otherwise, and where financially viable, trees affected by ash dieback (including dead trees) should not be felled to enable resistance to ash dieback to develop among the species, and so that dead wood can provide value to wildlife.

- Trees felled through ash dieback should be replaced using a suitable mix of native broadleaved trees to ensure no net loss (to wildlife and people); again, expert advice on an ideal replacement mix should be sought. Each ash tree lost should be replaced with at least three new trees for a large ash tree, two for a medium tree, and one for a small tree. More detailed advice on replacing lost ash trees is available at this link, and further information on dealing with the disease is provided by the Tree Council's Ash Dieback Toolkit.

- In woodlands with high levels of natural regeneration of species other than ash, it may be appropriate to replace ash with natural regeneration if there are interventions to selectively clear competitive vegetation, control pests and/or manage any public access.

- Everyone involved in the felling of trees – whether it is an owner felling trees themselves or employing others to do the work, such as an agent, timber merchant or contractor – must ensure that a felling licence or other permission has been issued before any felling is carried out.

- When felling ash trees, organisations should engage with the public to ensure understanding of why felling is taking place and to discuss the risks of tree disease more widely. Other Pests and Diseases.

- Ash dieback is not the only threat to our trees. Other diseases with significant potential impacts on trees in the West of England currently include Sweet Chestnut Blight, Phytophthora, Oak Processionary Moth and Acute Oak Decline. There are many further diseases, generally with less impact at the West of England level, of which woodland managers should be aware.

- Due diligence in biosecurity practices – not just in sourcing trees (as in the next section) but also in woodland management – should be practiced to best manage tree disease.

- Sightings of tree diseases should be reported to TreeAlert – the Forestry Commission's online tool where sightings of dangerous tree pests and diseases should be reported – to best support the national response.

- Observatree is a tree health citizen science project which trains volunteers to spot pests and diseases, thereby helping tree health authorities identify and manage outbreaks early.

- Oak Processionary Moth is a threat to human health as well as oak trees. This non-native moth, accidentally introduced in 2005, strips oaks trees of their leaves, leaving them vulnerable, but also poses a health risk to humans by causing rashes and breathing difficulties. – The public must be made aware not to touch or approach oak processionary moth caterpillars or their nests. – There are currently special restrictions on the movement of oak plants to minimise the risk of introducing OPM to new areas. – Any sightings should be immediately registered to TreeAlert.

Preventing Establishment of Disease, Pests and Invasive Species

- Woodlands are far more resilient to pests and diseases if the principle of diversity of species, age and structure is followed. Effective and sustainable woodland management to create this diversity is critical.
- Natural regeneration is recognised as being important in building resilience and genetic resistance to disease in native tree species.
- To prevent future tree diseases, trees to be planted should be sourced from tree nurseries that produce trees sourced and grown in the UK/ Ireland where possible. If trees are imported from elsewhere, they should be from nurseries that use biosecurity measures that aim to reduce the risk of diseases being imported (such as quarantining trees for a season before planting).
- Organisations should take appropriate biosecurity measures when planting trees and managing woodland to minimise the risk of existing invasive species (such as rhododendron) establishing themselves in existing and new woodland. Additionally, already-established invasive species (including rhododendron) should be removed from woodland where possible.

Deer and Squirrel Management

Deer and grey squirrels can damage newly planted trees and those which are becoming established. Control may be necessary, see full Forest of Avon Plan for guidance.

Appendix 3: National and Regional Policy Context

National

Defra's **25 Year Environment Plan 2018 (25 YEP)**[20] recognises the importance of ecosystem services provided by trees and highlights the importance of working strategically and in partnership to increase tree canopy cover. It also reiterates the Government's support for the national programme of **Community Forests** (p48), including the **Forest of Avon** a focus for partnership working for trees in and around Bristol since 1992. The **Environment Act 2021**[21] enshrines much of the 25 YEP in law, with improved legal protection for existing trees and woodlands, including a duty on local authorities to consult on the felling of street trees (s115). It also requires local authorities to develop Local Nature Recovery Strategies, (as exemplified by the West of England Nature Recovery Network mapping). It also mandates developments to achieve at least 10% **Biodiversity Net Gain (BNG)** (measured using Natural England's biodiversity metric) and that habitats so created will need to be secured for at least 30 years through a formal agreement.

The **National Planning Policy Framework (NPPF)**[22] recognises the importance of trees and overall, trees contribute towards 11 of its 13 objectives. In particular, the NPPF (Section 15) requires that planning authorities produce plans to enhance the natural and local environment and that development resulting in the loss or deterioration of ancient woodland and ancient or veteran trees should be refused, unless there are wholly exceptional reasons. It also states (Section 12) that they should prepare design guides or codes consistent with the national guidance. Under Nature, the **National Model Design Code Part 2**[23] includes specific recommendations for Green Infrastructure (N1, p18) and N3 Biodiversity including (N3iii, p26) Street Trees.

The **Climate Change Act 2008**, as amended in 2019[24], commits the UK to a net zero emissions target by 2050. The **Nature for Climate** programme announced in the March 2020 Budget is a practical expression of this, with a target to plant 30,000 hectares per year across the UK by 2025. The **England Tree Action Plan 2021**[25] sets out policy priorities to deliver the government's target, support woodland management and increase public engagement with trees and woodlands. The NfC programme is funding the **Forest of Avon Trust (FoAT)** to deliver c.350 ha of individual trees and woodland in Bristol and the West of England by 2025

The UK is committed to delivering the **Sustainable Development Goals (SDGs)**[26], which have been adopted by all UN Member States in 2015 to 'end poverty, protect the planet and improve the lives and prospects of everyone, everywhere'. Trees and woodland are important in delivering many of the 17 SDGs, including 'good health and wellbeing', 'climate action' and 'life on land'. All actions in Bristol's **One City Plan** are mapped against achieving these goals.

Urban Greening Factor for England- Development and Technical Analysis (2023) sets out a headline Green Infrastructure (GI) standard, based on: (a) a target factor score that sets a minimum proportion or percentage of greening for a particular site, area or land use; and (b) a schedule of surface cover types and associated factor weightings that are used to calculate the score. Tree planting, incorporating SUDS and open green space, makes an important contribution to this target.

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20 Available at: https://www.gov.uk/government/publications/25-year-environment-plan

21 Available at:https://www.gov.uk/government/news/world-leading-environment-act-becomes-law

22 Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

23 Available at: https://www.gov.uk/government/publications/national-model-design-code/national-model-design-code-part-2-guidance-notes-html-accessible-version

24 Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111187654

25 Available at https://www.gov.uk/government/publications/england-trees-action-plan-2021-to-2024

26 Available at: https://sdgs.un.org/goals

The **UK Forestry Standard (UKFS) 2017**[27] **(updated in 2023)** is the reference standard for sustainable forest management, ensuring that international agreements and conventions are applied in the UK. It underpins the principles set out in **Appendix 2**.

The **Trees and Woodland Strategy (TAWS) Toolkit for Local Authorities 2022**[28] is a step-by-step guide for Local Authorities and their stakeholders to develop and deliver a local tree strategy. It provides practical guidance and case studies from around the country including the WoETWS.

West of England

The **West of England Joint Green Infrastructure Strategy 2020**[29] **(JGIS)** sets out an agreed way for BCC, other local authorities and the **West of England Combined Authority (WECA)** to help address climate and ecological emergencies and the location of housing, jobs and infrastructure.

The Forest of Avon Plan: A Tree and Woodland Strategy for the West of England 2021[30] **(WoETWS)** was produced in response to Strategic Action S5 of the JGIS, is endorsed by the **West of England Nature Partnership (WENP)** and has been adopted by BCC. It also forms the updated **Forest of Avon Community Forest Plan**. The WoETWS sets out a long-term vision for trees and woodlands across the West of England, with a 5-year action plan and agreed principles to guide delivery. It also describes tree and woodland priorities for landscape character areas across the region. Greater Bristol S5.19 and parts of 5.12, 5.15 and 5.22 are particularly relevant. The agreed West of England principles for trees and woodlands form part of this document and are included in Appendix 2.

West of England Climate and Ecological Strategy and Action Plan (WECEAP) 2022[31] sets out WECA's ambition that in 2030 the West of England is net zero carbon, that wildlife and the natural environment are in recovery, with their decline halted. Complementing BCC's existing plans and policies and reflecting strategies including the WoETWS, the WECEAP sets out the investment the region needs from government. This includes (p34): providing capacity funding to produce Nature Recovery Strategies and their ongoing delivery; ensuring sufficient funding is available to deliver Biodiversity Net Gain; and increasing the funding available for the delivery of large-scale projects.

Bristol

Bristol has defined strong policies in response to the declared climate and ecological emergencies to achieve a nature-rich and climate resilient future for all. These policies and associated strategies are driving significant change through all areas of the city. The BTWS works within this this policy framework to offer solutions, through the lens of trees, to some of the big problems we face today. By increasing tree cover and better management of our existing trees we can support communities in greatest need, help reduce the harmful effects of extreme heat caused by climate change and provide more space for nature.

The policies and plans highlighted include the **One City Plan**[32], which sets out an ambition to double tree canopy and the abundance of wildlife. The **One City Ecological Emergency Strategy**[33] outlines key steps to achieve 30% of land in that is managed for nature. The **One City Climate Strategy 2030**[34] sets out a plan for a carbon neutral future and a climate resilient city.

The **Bristol Local Plan**[35] sets out policies for green infrastructure and biodiversity in new development requiring developers to maintain and incorporate important existing green features such as trees. Policies for **Biodiversity Net**

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27 Available at: https://www.gov.uk/government/publications/the-uk-forestry-standard#full-publication-update-history

28 Available at: https://treecouncil.org.uk/what-we-do/science-and-research/tree-strategies/

29 Available at: https://www.westofengland-ca.gov.uk/what-we-do/environment/joint-green-infrastructure-strategy/

30 Available at: https://forestofavontrust.org/forest-of-avon-plan/what-is-the-plan-in-your-area

31 Available at: https://www.westofengland-ca.gov.uk/about-us/our-strategy/

32 Available at: https://www.bristolonecity.com/about-the-one-city-plan/

33 Available at: https://www.bristol.gov.uk/council-and-mayor/policies-plans-and-strategies/energy-and-environment/bristol-ecological-emergency

34 Available at: https://www.bristolonecity.com/climate/

35 Available at: https://www.bristol.gov.uk/residents/planning-and-building-regulations/planning-policy-and-guidance/local-plan/local-plan-review

Gain (BNG)[36], expected to come in force from November 2023, will set a standard to protect existing biodiversity, and where loss is permitted, achieve 10% more nature. The **Bristol Tree Replacement Standard**[37] will apply where BNG does not. The requirement for certain development to achieve an **Urban Greening Factor**[38], will set a minimum standard for the provision of green infrastructure to include provision of trees and natural drainage systems. A specific policy for Trees requires developers to provide tree-lined streets and addresses how to ensure existing safe and healthy trees are kept when new developments happen. The requirement for local authorities to consult on the loss of street trees will be introduced via the **Environment Act 2022** (which also encompasses the requirement for BNG).

Bristol lies within the Forest of Avon Community Forest, and the FOAP 2021[39], sets out a long-term vision for trees and woodlands across the whole region and clear guiding principles for planting and caring for them. These principles are used as a golden thread for the delivery of this strategy.

Bristol City Council's new **Parks and Green Spaces Strategy**[40] sets a clear target to increase tree cover and improve the management of existing woodland habitats. The BTWS uses the Tree Impact Criteria (TIC) to prioritise tree planting and wider activity where citizens will gain greatest benefit.

Appendix 4: Funding (2023)

Substantial **Trees for Climate grant**[41] has been secured by the FoAT for 5 years and the charity is working with BCC to fund a range of specimen tree, orchard, hedgerow and woodland planting. [DETAILS TBC]. Alongside this, the **Forestry Commission's (FC's) England Woodland Creation Offer**[42] provides grants to create a UKFS compliant **Woodland Creation Design Plan** and for woodland planting at a range of scales. These schemes are coordinated across Bristol and the West of England to provide the best package of support for landowners.

Funding is also available under **Countryside Stewardship (CS)**[43] to create UKFS compliant 10-year **Woodland Management Plans** and once approved by the FC applicants to apply for CS Higher Tier payments to improve the biodiversity of woodland and/or make it more resilient to climate change. FC **Woodland Tree Health** grants can help to restock or improve woodland after tree health problems and payments are available for the costs of groups of landowners in addressing Ash Dieback Disease including surveys, road closures, a facilitator, restocking and maintenance but excluding felling.

FoAT grants will be available until at least 2025 and FC grants are being integrated into the new Environmental Land Management Grant Scheme, which will provide support for trees and woodlands.

Biodiversity Net Gain (BNG) is an important opportunity **if** existing trees and woodlands cannot be safeguarded through enforcement of the BLP. Where proposed development necessitates the removal of a tree, then adoption of Natural England's BNG 4.0 metric provides opportunities for planting new trees both within the development and if not possible, at suitable locations nearby. The BTPP accompanying this document identifies areas in which tree planting will be of greatest benefit and it is critical that this informs planting and that 30-year care (or a covenanted longer period), is enforced through a planning agreement.

Business Investment has been secured by BCC, WT, FoAT and others to support tree planting, woodland management and training in the city over a number of years. Given the importance of Bristol's businesses to the regional economy, it is important to work collectively to ensure that a higher proportion of CSR investments are made within the city's boundaries, delivering the priorities of the BTPP, including higher cost yet higher impact street trees. **Bristol Avon**

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36 Available at: https://naturalengland.blog.gov.uk/wp-content/uploads/sites/183/2022/04/BNG-Brochure_Final_Compressed-002.pdf

37 Available at: https://www.bristol.gov.uk/residents/planning-and-building-regulations/planning-policy-and-guidance/supplementary-planning-documents-practice-notes-and-other-planning-guidance

38 Available at: https://publications.naturalengland.org.uk/publication/5846537451339776

39 Available at: https://forestofavontrust.org/forest-of-avon-plan/

40 Ref TBC

41 Available at: https://forestofavontrust.org/for-trees/trees-for-climate

42 Available at: https://www.gov.uk/guidance/england-woodland-creation-offer

43 Available at: https://www.gov.uk/guidance/countryside-stewardship-get-funding-to-protect-and-improve-the-land-you-manage

Catchment Market[44] run by Wessex Water, Avon Wildlife Trust and Wiltshire Wildlife Trust may present opportunities to support this.

WECA's £50m Green Recovery Fund (GRF)[45] is supporting the FoAT to deliver early actions of the WoETWS. This has included staffing capacity to deliver strategic projects (partly in Bristol) and create the Great Avon Wood on the fringe of the city. It is anticipated that further funding may be available under the GRF or WECAs Strategic Investment Fund to deliver projects in Bristol.

Woodland Trust (WT) supports action for trees and woodlands in Bristol. Emergency Tree Fund is funding the Enduring Roots and New Shoots project. Coordinated by the FoAT this is planting more than 24,000 native trees, increasing green space and boosting local ecosystems in Bristol and the wider West of England. It also provides school and community tree packs and provides periodic training on ancient woodland management.

Business Sponsorship

Voluntary Contributions [No OF OTPC VOLUNTEERS in 22/23?]

S106

S106 agreements for permitted development involving the loss of trees has created funds across the city for tree replacement. Currently standing at approximately £800,000 these are drawn down when suitable tree planting sites are identified and added to when further S106 Agreements related to trees are made.

National Lottery Heritage Fund's 2023-2033 Strategy's[46] investment principles would support strategic partnership bids with a strong community dimension, which address issues including landscape and habitat recovery, adaptation to climate change and reducing barriers for people under-served by heritage.

Appendix 4: Stakeholder Workshop Attendees

University of Bristol, University of West of England, Woodland Trust, Bristol Tree Forum, Forest of Avon Trust, Bristol City Council (City Design Group, Tree Officers, Highways, Councillor for Public Health, Communities and the One City Plan, BS3 Wildlife Group, Bristol Walking Alliance, Avon Needs Trees, Friends of Troopers Hill/ Bristol Parks Forum, Redcliffe and Temple / City Centre BID, Plan 4 Trees, North Bristol NHS Trust, Natural History Consortium

Appendix 5: Summary of Acronyms

[TO BE COMPLETED]

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44 Available at: https://www.bristolavoncatchmentmarket.uk/

45 Available at: https://www.westofengland-ca.gov.uk/what-we-do/environment/green-recovery-fund/.

46 Available at: https://www.heritagefund.org.uk/about/heritage-2033-strategy/overview