Protecting trees of high social, cultural and environmental value

Final Report

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Executive summary

The importance of this research

All trees provide critical ecosystem services, but some trees provide exceptionally high social, cultural, and environmental value. These trees, referred to in this research as ‘important trees’, are a vital part of our natural heritage and are a precious living legacy to be passed between generations. They can be iconic features of the landscape, connected to people, history, places and communities, and crucial habitats for wildlife. However, despite their exceptional – and often irreplaceable – characteristics and value, ‘important trees’ have been, and continue to be, lost and damaged. This research is an opportunity to explore ways to better protect and manage these trees and to shape future policy development and further research.

What are ‘important trees’?

For the purposes of this research and report, we have used the term ‘important trees’ as short-hand for ‘trees of high social, cultural, and environmental value’. There is currently no formal definition of ‘important trees’; this research seeks to explore the characteristics of such trees and how they could be identified. ‘Important trees’ can encompass trees classified under existing terminology, such as ancient, veteran, heritage, champion and notable trees, and trees that do not fit within these classifications and are highly valued for other reasons. Key existing terms are defined in the main report.

Research activities

The research included a desk-based review of existing legal protections and financial support in the UK and exploration of protections in other countries. This informed the design and implementation of stakeholder workshops, which identified weaknesses and gaps in current protection, and opportunities to address them. The research involved engagement with experts from nearly 50 different organisations, including non-governmental organisations (NGOs), government agencies, landowning organisations, industry bodies, academics, tree volunteers and arboricultural professionals. A long list of possible options was generated and refined through further discussion and feedback processes. This report presents the findings of the research, including a set of final recommendations.

Key findings

Key findings of this research include:

- ‘Important trees’ face a range of threats, including environmental (such as climate change impacts, soil health deterioration), biological (such as pests and diseases), human behaviour and attitudes (such as vandalism), legislation and enforcement weaknesses, management practices, and resource pressures. While many threats apply to trees more broadly, some are unique to or particularly significant for ‘important trees’.

- There is a gap in the legal protection of ‘important trees’, with a reliance on mechanisms and systems that are not designed specifically for this purpose.

- There is widespread support among stakeholders to bring in a new designation system, legal protection, and financial support that recognises the full range of social, cultural and environmental values these trees hold.

- This report highlights useful examples of similar systems implemented in other countries and encourages knowledge exchange with international counterparts.

- There was agreement among stakeholders that existing mechanisms, such as Tree Preservation Orders (TPOs) and felling licensing, could also be improved and expanded in scope to protect more trees, more effectively.

- Reviewing sentencing guidelines would provide a route to ensuring that appropriate penalties for tree-related offences act as meaningful deterrents.

- Funding and resource constraints are identified as a significant factor in limiting the effectiveness of existing protections. Without sufficient resource, key actors, such as local authorities and enforcement agencies, will not be able to carry out their duties in safeguarding ‘important trees’.

- Important trees and their environments are dynamic, yet their active stewardship is not currently well-supported or sufficiently encouraged. This could be addressed by improving access to relevant training, guidance and evidence relating to their management.

- Stakeholders identified a skills and capacity gap in the sector and a need for improved training specifically about managing ‘important trees’. Professionals in the sector should be incentivised to take up existing schemes, e.g. VETcert.

- There is a desire among stakeholders to democratise the identification of important trees, in line with our international commitments relating to public participation in decision-making on environmental matters.

Recommendations

The research process identified specific opportunities to improve protection and gathered evidence around the benefits, risks and feasibility of their delivery (see Section 4). However, given the diversity of threats that ‘important trees’ face, none of these solutions will work in isolation. It is therefore recommended that a holistic approach is taken to improving their protection and management. This should be underpinned by a new action plan that draws from and builds on this research to set priorities, objectives and actions. The plan should be supported by a continued mechanism that brings together representatives from government and its agencies, the tree sector, and other relevant stakeholders.

Over-arching recommendations

This report recommends that the government should consider the following actions to address the threats to ‘important trees’ identified by stakeholders. There are eight over-arching recommendations, listed below, which are supported by a larger number of specific recommendations in the main body of the report.

1) **Initiate and facilitate a mechanism for engagement of key stakeholders within the next 12 months to better protect ‘important trees’:** This should include stakeholders within government and its agencies, as well as representatives from relevant sectors such as NGOs, local government, the historic environment, and nature conservation organisations. The first responsibility of the group should be to clearly define ‘important trees’ and subsequently develop an action plan (see below).

2) **Develop an action plan for ‘important trees’:** This should draw on the findings of this research and take a holistic and integrated approach. New and improved legal protections and funding should be prioritised, supported by actions around skills and capacity, evidence, awareness and collaboration.

3) **Improve the legal protection of 'important trees':** Current legal protections, such as TPOs, are insufficient to protect our most 'important trees'. The stakeholder group should therefore conduct a review of current legal frameworks and enforcement mechanisms and develop a robust and effective system to ensure the protection of 'important trees'.

4) **Develop a public and private funding framework, to support owners and agencies in the management, regulation and protection of 'important trees':** Currently, funding for vital tree work to retain and protect our 'important trees' is scarce. The recommendation is that financial support, drawing from both public and private sources, should be available to the owners of 'important trees' to help develop and implement management plans.

5) **Enhance data on current and future 'important trees' so that protection and conservation efforts can be better targeted and monitored**: Some data exists on ancient and heritage trees (e.g. The Ancient Tree Inventory), however this data should be enhanced and reinforced so that it provides a comprehensive view of the 'important tree' population and how it is changing over time.

6) **Appoint a Special Representative for 'important trees' to champion them at the political level**: 'Important trees' need better representation and a champion should encourage and enable the development of political and public engagement with this group of trees.

7) **Continue to lead positive engagement for 'important trees' with government and its agencies, NGOs and others**, plus explore international knowledge exchange, to further develop best practice for effective legal protection and designation.

8) **Improve skills and capacity to manage and protect 'important trees'** with targeted provision for different audiences including tree owners, arboriculturalists, and career entrants. This could include an online guidance hub, training courses, and apprenticeships.

The importance of timely action

Expert stakeholders emphasised the urgency of taking action to identify, protect and better manage 'important trees', as well as the social, cultural and environmental and the values they hold.

The recommendations in this report therefore offer government a timely opportunity to drive vital and positive change in a collaborative way. Without this action, we risk losing more of our cherished ‘important trees’. Together, we can preserve these national treasures, ensuring they continue to enrich the lives of both current and future generations of people and wildlife.

1. Introduction

1.1 Research overview

The Tree Council, in collaboration with Forest Research, were commissioned by Defra to investigate the incentives and regulatory options that can be used to improve protection and support for existing ‘important’ Trees Outside Woodland (TOW) that hold significant environmental, social, and cultural value (see definitions in Section 1.4). It is an element of a wider research project focused on future government support for TOW, including a review of current mechanisms and grant provision for establishment and management of TOW.

‘Important trees’ are a vital part of our natural heritage. They can be much-loved, familiar and iconic features of the landscape, interwoven with the history of places and communities. Some are high-profile nationally, with well-known names and stories, for example, the Ankerwycke Yew in Runnymede, or the Major Oak in Sherwood Forest (pictured below) but many more are equally highly treasured locally or regionally. ‘Important trees’ can act as a gateway to the natural world, providing a moment of sanctuary in our busy lives and inspiring art, music, and literature.

Image 1: The Major Oak, Sherwood Forest

However, national data on the loss and deterioration of 'important trees' remains limited, although there are well-documented examples of their loss or harm, such as the Sycamore Gap tree. Evidence on threats facing these trees has been gathered through sources such as the Ancient Tree Inventory (ATI), a citizen science project (Nolan et al, 2020), and further evidence is being gathered by the Woodland Trust and The Tree Council on the condition of heritage trees. Organisations such as the Ancient Tree Forum and Woodland Trust have advocated for increased protection, as highlighted in campaigns like the Woodland Trust's Living Legends and State of the UK's Woods and Trees report. The public outcry following the loss of the Sycamore Gap tree in October 2023, along with other notable examples discussed in this report, demonstrate wide-spread support for improved protection.

This research project has provided a valuable opportunity to explore strategies for preventing further loss or deterioration of 'important trees' and to encourage and enable their effective stewardship for the future.

1.2 Research objectives

The objectives of this research were:

1. To understand the current protections afforded to veteran, ancient and other 'trees of importance' and the current gaps in protection.
2. To understand options for improving protection and filling these identified gaps.
3. To understand which of these options best meet the over-arching objective: to identify the most promising incentives or other policy options that can be used to improve protection and support suitable management for 'important Trees Outside Woodland'.

Research activities have included desk-based reviews and consultation with key stakeholders and experts, engaging a wide range of organisations that have an interest in the care and protection of 'important trees'. Through systematic data collection, we gathered and reflected on the valuable insights and experience shared by their representatives. This report presents the key findings of this research.

The research scope and key terms are described below in Section 1.3.

1.3 Report overview

This report is structured as shown in Table 1 below.

Table 1: Report overview

Section	Report component
N/A	Executive Summary
Section 1	Introduction
Section 2	Methods
Section 3	Findings
Section 4	Recommendations
References and acknowledgements	Project team
	References
	Acknowledgements
Appendices	Evidence summaries and case studies

1.4 Scope and definitions

1.4.1 Geographic scope

This research has focussed on the protection of 'important trees' in England and accordingly has primarily engaged with policy, regulation and stakeholders in England. However, the findings may have wider applicability in the UK, and sharing them with stakeholders in Northern Ireland, Scotland and Wales, would be beneficial and may identify opportunities for aligned or collaborative approaches to tree protection.

1.4.2 Trees Outside Woodland

Trees Outside Woodland (TOW) refers to any trees found in settings other than woodland or forests. For example, this can include trees and hedgerows in parks, open countryside and farmland, gardens and estates, or beside roads and paths. While the project proposal and objectives refer to TOW, examples of individual

‘important trees’ within woodland have also been discussed during the research and this is reflected in the report.

1.4.3 Important trees

For the purposes of this research and report, we have used the term ‘important trees’ as short-hand for ‘trees of high social, cultural, and environmental value’ (see further definitions below). There is currently no formal definition of ‘important trees’; this research seeks to explore the characteristics of such trees and how they could be identified. The use of this term in this research does not imply it should be adopted going forward, nor should it be taken to mean other trees have no importance.

‘Important trees' can encompass trees classified under existing terminology, such as ancient, veteran, heritage, champion, and notable trees, while also allowing for a broader interpretation in this research to avoid assumptions about which tree types matter to different stakeholders. Key existing terms are defined below, and Figure 1 illustrates how they overlap.

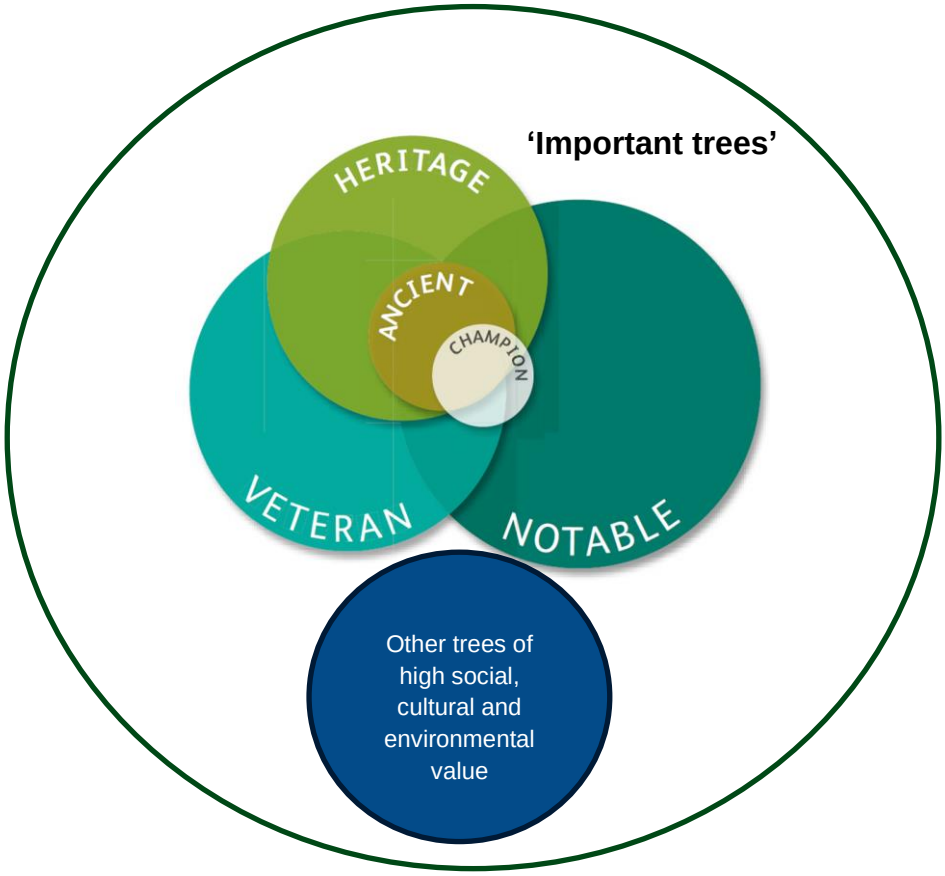

Figure 1: The overlaps in classifying ‘important trees’ (adapted from image by Ancient Tree Forum)

1.4.4 Ancient and veteran trees

Ancient trees are those which have reached a great age in comparison with others of the same species (Ancient Tree Forum). The lifespan of trees varies between species and therefore so does the age at which they are considered ancient.

Veteran trees have the characteristics of ancient trees (such as hollowing or a wide trunk) but these features may not be due to age – instead they could occur through damage due to natural processes, human management or changes to the tree's surrounding environment.

Ancient and veteran trees are recognised by government as 'simply irreplaceable' (Defra, 2022, 2024). They provide high biodiversity value, with unique features that support birds, bats, insects, mosses, fungi and other fauna and flora (e.g. Butler et al, 2002; Ranius et al, 2008; Seinbold et al, 2018). In towns and cities, they can act as keystone structures and vital habitat for wildlife in urban greenspaces (Stagoll et al, 2012).

1.4.5 Heritage, notable, and champion trees

Heritage trees are defined by the Ancient Tree Forum as those which are a part of our history and culture. They can be connected with specific historic events of people, or may have special botanical interest, visual appeal or landscape character, or be well-known landmarks.

Champion trees are the largest individuals of their species in a specific geographical area (e.g. England). The Tree Register holds the definitive list of champion trees. Trees that are significant at a local scale for their size or other special features can be referred to as **notable trees**.

1.4.6 Social and cultural values

Trees are invested with shared values and significance and are an important part of the fabric of human cultures and societies. These shared ways of thinking, feeling, behaving, responding to and communicating about the value of trees manifest themselves in diverse ways: these are social and cultural values. The social and cultural values attached to trees are dynamic and shaped by different circumstances and transmission across generations. People from diverse social groups and walks of life may express these values differently. For more explanation of social and cultural values in relation to trees outside of woodland please see Brockett et al (2024).

1.4.7 Economic valuation

In the UK the Helliwell and CAVAT systems are commonly used to value individual trees. “The Helliwell system is entirely based on expert judgement, focuses solely on visual amenity value and has very low field data requirements”, whereas CAVAT focuses “on wider benefits of trees to communities rather than purely visual amenity”, but doesn’t provide detailed benefit and cost data (Saraev, 2011). The i-Tree process provides a customised value based on a sample or a complete inventory of the street tree population as well as community-specific information (Saraev, 2011). Östberg and Trädförening (2019) provide an international perspective. In the Sycamore Gap example, the court documents note the tree has been valued at over £600,000 using the CAVAT approach (BBC News, 2024).

Various studies have attempted to place an economic value on different types of tree or woodland. A recent study by Forest Research estimated the total annual value of the UK’s non-woodland trees to be between £1.39 billion per year and £3.83 billion per year, in 2020 prices (Doick et al, 2021). Using the 100-year Net Present Value method they calculated the Natural Capital Value of non-woodland trees to be between £68.5 billion and £151.5 billion, in 2020 prices.

1.4.8 Ecosystem services

There are various definitions of ecosystem services (IPBES, 2024), however they can be simply described as ‘the benefits people obtain from nature’ (Millennium Ecosystem Assessment, 2003). Ecosystem services can be divided into supporting, regulating, provisioning and cultural services. In 2018 the Woodland Trust published a research report into the particular services provided by trees outside woodlands. This identified that such trees provide a wide range of benefits to society, for example alleviating flooding, storing significant amounts of carbon, providing opportunities for food and fuel, and even speeding recovery from illness and reducing crime and anti-social behaviour, to cite just a few examples (Woodland Trust, 2018). The study found that these benefits are often not well-recognised or valued.

1.4.9 Natural capital

Natural capital refers to the economic, environmental, and social benefits provided by natural resources and ecosystems. These include tangible assets like forests, water, minerals, and biodiversity, as well as the ecosystem services (see 1.4.8 above) they support, such as air purification, water filtration, climate regulation, and pollination (Defra, 2023a).

‘Important trees’ incorporate a remarkable array of special qualities and values. Many of these can be captured using the Natural Capital Approach. The illustration below (Figure 2) shows that range of natural and cultural values provided by ancient, veteran and other special trees (which are encompassed by ‘important trees’).

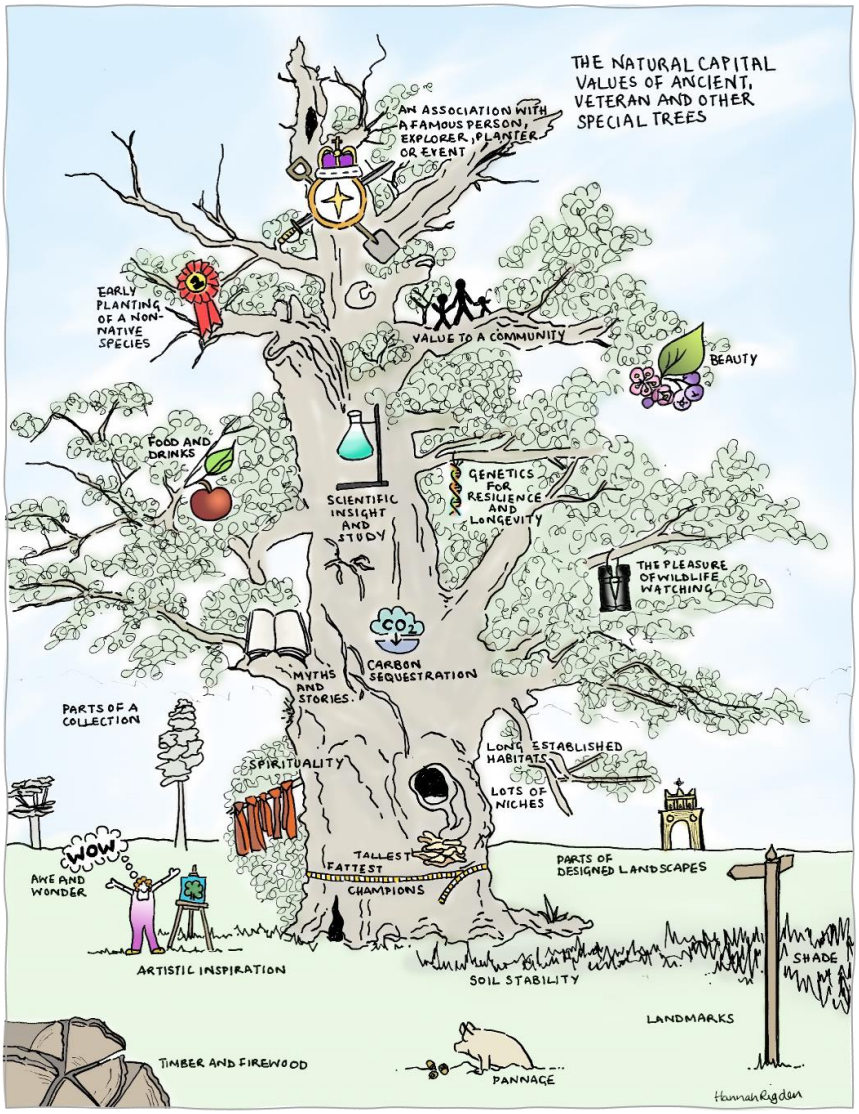

Figure 2: The Natural Capital Values of ancient, veteran and other special trees (credit: Hannah Rigden/ Natural England)

1.5 The need for improved protection

1.5.1 Threats to ‘important trees’

All trees can face a range of threats to their longevity and health and thus their ability to provide valuable ecosystem services. They can be harmed through human action,

both deliberate (e.g. felling, vandalism) and inadvertent (e.g. soil compaction and deterioration or mismanagement). They also face environmental threats (e.g. climate change) and biological threats (e.g. pests and diseases). Land use change is also an important factor, with development and infrastructure projects leading to loss of trees, as illustrated in the examples discussed below.

Recognising and understanding the specific threats to "important trees" is essential for their effective protection. This issue has been explored in this project, and the findings are presented in this report.

1.5.2 Insufficient legal protection

‘Important trees’ are a living legacy that should be passed from one generation to the next, connecting us with people who have gone before and those who will come after.

However, there is currently:

- **no specific, official mechanism for recognising or designating them,**
- **no specific legal protection,**
- **no dedicated funding to support their management costs.**

Their lack of protection and funding is at odds with the high value these trees hold (as described in Section 1.4.6-1.4.8) and undermines national aspirations for nature recovery. This issue has therefore been explored in this project, with the findings presented in this report.

1.5.3 Strength of public support

The high value the public place on these trees was clear in the public outcry in response to the felling of the tree at Sycamore Gap in September 2023. There was an outpouring of grief, anger and sadness at the sudden loss of a tree that had become an iconic living landmark. The case rapidly became a major news story and made headlines around the world.

While the Sycamore Gap tree might have garnered the most widespread attention, it is not the only example of ‘important trees’ being lost. In 2020, the 300-year-old Hunningham Oak, near Leamington, was felled to make way for infrastructure projects. In 2021, the Happy Man Tree, Hackney, was felled to make way for housing development – despite having won Tree of the Year 2020. In 2022, a 600-year-old oak was felled in Bretton, Peterborough, reportedly causing structural damage to property. In 2023, sixteen ancient lime trees on The Walks in Wellingborough, Northamptonshire, were felled to make way for a dual carriageway

– following local protest and campaigning, a High Court judge ruled that this should not have taken place. The public backlash arising from the loss of trees valued by people has also been seen in Plymouth and Sheffield. This all highlights the need to better protect these trees from a range of threats. An improved approach to understanding how such trees are valued by communities and giving these values more weight in decision-making could help protect 'important trees' and avoid costly and contentious situations like these. There is strong public support for increased protection of 'important trees'. Public opinion polls undertaken by YouGov (2023) for the Woodland Trust demonstrate this (see Box 1).

Box 1: Strong public support for improved protection

- *88% support granting some of the oldest, largest and most wildlife-rich ancient trees legally protected heritage status.*
- *76% support introducing policies to refuse new building developments that would mean removing ancient trees.*
- *77% support introducing government funded land management schemes that aim to support the protection of ancient trees.*
- *83% support allowing local councils to identify trees that have particular conservation or cultural value and use legal protections that mean permission is required from the council before a tree is removed.*

Polling for the Woodland Trust, YouGov (2023)

The Woodland Trust has been running a campaign for legal protection of the country's oldest and most special trees – Living Legends. This now has more than 90,000 signatures (Woodland Trust, 2024).

Recent research by Forest Research into the social and cultural values people place on trees and woodlands (O'Brien et al, 2024) found that a representative sample of 5,000 people across England valued trees and woodlands across 19 different value dimensions. Values which the authors note "are often not captured, taken into account, or used in decision-making" (p1345). These included "relational values, such as those around identity formation, learning, inspiration, physical and psychological experiences, and spiritual significance" (p1335) and instrumental values, where treescapes are valued for what they provide for wildlife and as focal places for people to spend time with friends and family and where communities can come together. The authors suggest that these values are held for specific trees and woodlands, but that people could hold similar values for trees and woodlands more generally.

A different research project by Forest Research “identified a large level of support for urban trees across the whole of Britain” (Moffat et al, 2024).

1.5.3 Support of key stakeholders

Many organisations, authorities, and agencies are keen to work collaboratively and to support efforts to better protect ‘important trees’. Our research has reaffirmed this, with meaningful and positive engagement with experts from nearly 50 different organisations, including non-governmental organisations (NGOs), government agencies, landowning organisations, industry bodies, tree volunteers and arboricultural professionals (see Section 2.3 for more information on stakeholder engagement).

In addition to government-led legal protection and financial incentives for protection (including encouraging appropriate management), collaboration with such organisations as those involved in this research offers additional opportunities to improve the protection and management of ‘important trees’. These potential collaborators bring skills, knowledge, advice and guidance, access to key stakeholders training opportunities, research, and increased public awareness through knowledge-exchange and media campaigns. Such collaboration can support and complement any legal protections or financial incentives introduced by government.

1.5.4 International precedent

There is precedent in other countries for improved protection of ‘important trees’. England could join countries like Italy and Poland (see Section 3.5) in taking a lead in recognising, protecting, and celebrating its ‘important trees’ as national treasures. This research includes a review of several different countries and the mechanisms they use to protect their ‘important trees’, which could offer useful insights and lessons that may be applied in England.

1.6 Highly relevant existing policy and legislation

Highly relevant legislation and existing government policies relating to ‘important trees’ are summarised below – this is not an exhaustive list and is provided for context.

1.6.1 The England Trees Action Plan (ETAP)

The Government’s vision for trees, woodlands and forests is set out in the England Trees Action Plan (2021-2024) (ETAP) (Defra, 2021). It emphasises the importance

of existing trees: *'Our standing trees and woodlands are at the heart of England's landscapes and urban areas. As well as planting and establishing more trees, we must do more to protect the ones we already have.'* The value of trees to local communities is recognised, as well as the risk of their decline: *'Trees outside of woodlands are among the most valuable to society. People place great value on trees and green spaces in their local communities, which also provide connections in our fragmented treescapes and vital habitat for threatened biodiversity. Yet they often slip through the gaps between funding mechanisms, contributing to their long-term neglect and decline.'*

The ETAP covers the period up to 2024 and therefore is due for review. This could offer an opportunity for increased recognition and renewed commitment to improving how we manage and protect highly valued trees, particularly reflecting the full range of values.

1.6.2 Tree Health Resilience Strategy (THRS)

The Tree Health Resilience Strategy (2018) (THRS) (Defra, 2018) establishes four environmental goals for tree resilience with the aim of improving the baseline diversity, health and condition of England's treescape. An environment goal with particular relevance to ancient and veteran trees is that of improving 'diversity' in the context of age and size (structural diversity). Here, the special value that ancient and veteran trees have in contributing to resilience is explicitly recognised.

1.6.3 Keepers of Time

Keepers of Time (Defra, 2022a) sets out policy for trees of particularly high value, stating: 'We reconfirm our commitment to the principles of Keepers of Time: recognising the value of our ancient woodland, ancient and veteran trees and other semi-natural woodland, as well as the need to restore plantations on ancient woodland sites.' In it, ancient and veteran trees are recognised as irreplaceable habitat and of the highest value. A range of threats to ancient and veteran trees are listed, as well as series of policy commitments to recognise, protect and enhance the value of ancient and veteran trees in the landscape.

1.6.4 Planning policy

The National Planning Policy Framework (NPPF) states that "development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists" (MHCLG, 2023).

Biodiversity net gain (BNG) was introduced through an amendment to the Town and Country Planning Act (as inserted by Schedule 14 of the Environment Act 2021) and brought in a statutory requirement for developers to deliver a BNG of 10%. However, this does not apply for developments where a loss of 'irreplaceable habitat' would occur, as this is considered impossible to achieve.

Ancient and veteran trees are considered irreplaceable habitat and are listed as such in the Biodiversity Gain Requirements (Irreplaceable Habitats) Regulations 2024 – any deterioration or loss should be avoided and only permitted in exceptional circumstances. Special compensation rules apply if deterioration or loss is unavoidable (Defra, 2024).

1.6.5 Section 41 NERCA Duty ('general biodiversity objective')

An amendment to the original Natural Environment and Rural Communities Act 2006 (NERC Act) Section 40 duty, provided for in the Environment Act 2021 (Section 102), created 'the general biodiversity objective' which applies to public authorities (e.g. local authorities, government departments or public bodies, statutory undertakers etc.). The amendment places a legal duty on these authorities to 'conserve and enhance biodiversity' and obligations in terms of implementation and reporting with emphasis on protecting habitats and species. With ancient and veteran trees widely recognised as irreplaceable habitat, known for hosting Red Data List species in the UK and described as a key feature of several UK Biodiversity Action Plan Priority Habitats (e.g. wood pasture and parkland), they are significant in the context of the "the general biodiversity objective" amendment.

1.6.6 International Obligations

The UK is a signatory to the Convention of Biological Diversity (CBD). Strengthening commitment to the protection and improvement stewardship of ancient and veteran trees aligns with a number of principles and goals of this framework. For instance, the CBD emphasizes the conservation and protection of important habitats which may extend to ancient and veteran trees and the rare species they may be host to. The CBD also acknowledges the role of biodiversity in climate change mitigation and adaptation. Ancient and veteran trees are significant carbon sinks and contribute to climate resilience. Their conservation therefore aligns with global efforts to combat climate change, as outlined in the CBD's framework.

1.7 Existing approaches to mapping and recognising trees

There are no existing formal designation systems for 'important trees' (or ancient, veteran, or heritage trees), but some have been mapped or otherwise recognised by

sector-led initiatives. To provide context to this research, key initiatives are described below.

1.7.1 Ancient and veteran trees

The Ancient Tree Inventory (ATI), run by the Ancient Tree Forum and the Woodland Trust, seeks to map ancient and veteran trees. To date, across the UK, more than 190,000 ancient, veteran, and notable trees have been listed on the ATI. A guide is provided that includes definitions for these types of trees (Ancient Tree Inventory, 2024).

It provides a publicly accessible online map and the opportunity for the public to add trees to the record. While it is the most comprehensive database on ancient and veteran trees, modelling suggests there could be ten times the amount of such trees than have currently been recorded (Nolan et al, 2022).

1.7.2 Heritage Trees

While there is no official designation system for heritage trees (as defined in Section 1.4) in the UK, there are publications that have identified some of these trees. While they do not provide a formal definition or set of criteria for inclusion, they broadly align with the definition in Section 1.4.5. The Tree Council has published a series of books, listing and describing heritage trees in Britain and Northern Ireland. The books are not an exhaustive list of heritage trees but demonstrate their diversity and the range of values they hold. The authors engaged with Tree Wardens (a UK-wide network of volunteers) and members of the public to identify and select trees for inclusion. The books provided a useful record of the condition of the selected trees, and recent research has been carried out to revisit and survey the trees. This is set to yield new evidence on factors affecting ‘important trees’.

A further record has been provided by The Queen's Green Canopy, who invited the nation to identify 70 ancient trees and 70 ancient woodlands in honour of the late Queen Elizabeth II's Platinum Jubilee. The trees were photographed and published with a foreword by HM The King and reflections by celebrities and conservation experts.

1.7.3 Tree Preservation Order (TPO) lists and maps

Tree Preservation Orders (TPOs) are orders made by local planning authorities (LPAs) to protect specific trees or groups of trees deemed to provide amenity value. LPAs keep lists of TPOs they have applied. Some make this information available on publicly accessible maps (e.g. Woking Borough Council website), or they can be contacted to find out if a tree is protected. There is no centralised national map of

trees with TPOs. It appears that MHCLG hold a dataset collated from a small group of LPAs (see webpage here) which may provide an opportunity to address this.

1.7.4 Tree Register of Britain and Ireland

The Tree Register of Britain and Ireland (TROBI) is a database of over 270,000 of the most notable trees in the British Isles. It provides the definitive list of champion trees. The database is only available to members of The Tree Register, which is a charity, and the initiative is run entirely by volunteers. Their website provides information about notable trees and highlights places to visit: https://www.treeregister.org/.

1.7.5 Tree of the Year

Tree of the Year is a celebratory initiative run by the Woodland Trust which enables the public to vote for their favourite tree from a selection put together by an expert panel and public nomination. The selected trees can represent a theme, for example in 2024 the initiative is focussed on ancient oaks (Woodland Trust, 2024a). The winning tree then represents the UK in the European Tree of the Year competition.

1.8 Conclusion

This section sets out what we mean by ‘important trees’ and outlines the context of this research. It has highlighted the need for improved protection of ‘important trees’, therefore justifying the need for this research, which makes recommendations to government on how to achieve this.

2. Methods

2.1. Section overview

2.1.1 Research objectives and methods design

The table below outlines the methods followed to ensure alignment with the objectives of this research project.

Table 2: Overview of methods

Objectives	Method	Method section
1. To understand the current protections afforded to veteran, ancient and other 'important trees' and the current gaps in protection.	**Desk-based review of existing means of protection in the UK**, covering regulation, policy, and financial support.	2.2.1
	Desk-based review of existing protections in other countries, covering regulation, policy, financial support and strengths and weaknesses of these mechanisms.	2.2.2
	Workshop 1 explored the characteristics that define trees of high social, cultural and environmental value, while also gathering input on the threats they face, the effectiveness of current protections, and any gaps in those protections.	2.3.2
2. To understand options for improving protection and filling these identified gaps.	**Workshop 1** also focussed on gathering ideas and suggestions for improving protections and filling the identified gaps. A list of emerging options was then developed.	2.3.2
3. To understand which of these options best meet	**Workshop 2** involved discussing 10 of the emerging options in more detail, including why it is needed, how it could	2.3.3

the over-arching objective: to identify the most promising incentives or other policy options that can be used to improve protection and support suitable management for 'important trees'.	be implemented, which stakeholders need to be involved and what risks to consider.	
	Stakeholders were invited to **provide further feedback** and **complete a prioritisation exercise** on the full list of emerging options.	2.3.4
	Recommendation analysis and development: the research team analysed all the evidence gathered to develop a focussed set of recommendations which best meet the overarching objective.	2.5
All objectives	Throughout the research process, **additional opportunities for stakeholder engagement** were taken, which resulted in further feedback and comments to support our research.	2.6

2.2 Desk-based review

2.2.1 Existing protections and support in England

The first phase of research comprised a desk-based review of existing means of protection for 'important trees', covering regulation, policy, and financial support. A list was compiled, using the team's existing knowledge (see project team list), complemented with online searches. Searches were made for legal protections and financial support in England for 'important trees', as well as relating to other relevant, more well-established terms such as ancient, veteran, and heritage trees. This identified useful sources of grey literature and guidance on government webpages, and information published by other organisations, such as on the websites of Woodland Trust, Arboricultural Association and Ancient Tree Forum.

The key regulations, policies and financial support mechanisms identified through our review were compiled and reviewed to understand their scope, purpose and the organisations involved in their enforcement. These identified protections and support measures were presented at the stakeholder workshops (see Section 2.3 for more

information) to prompt participants to suggest any existing protections that might have been missed. This feedback enabled us to refine and expand the list iteratively, resulting in the comprehensive final list detailed in Section 3.4.

2.2.2 Existing protections in other countries

A second desk-based study was conducted, focusing on several countries known for having legal frameworks and other mechanisms which protect their most 'important trees'. Our choice of countries was based on prior knowledge of the team (see project team list) as well as recommendations from stakeholders.

We concentrated on three European countries, namely Italy, Portugal and Poland. We also broadened our scope beyond Europe to include New Zealand. We searched online resources, including government websites, environmental organisation websites and reports and expert articles to gather information on tree protection within these countries. For the selected countries, our search terms included legal protections, designation systems, number of trees protected, responsibilities for regulation and enforcement, and funding and other support. We also considered some of the strengths and weaknesses of these mechanisms.

While this research provided an overview of various international approaches, a full systematic literature review was not within the scope or capacity of this project, however this could be beneficial in future research.

2.3 Workshops

Two workshops were held to gather perspectives from key stakeholders with an interest in 'important trees'. The first was held in-person on 19th April 2024 and the second was held online on 23rd July 2024. Workshops were designed and delivered collaboratively by Forest Research, The Tree Council, and Defra.

2.3.1 Participant sampling and recruitment

Stakeholder mapping

It was important to gather views from stakeholders who hold significant roles in the protection and management of 'important trees', including local authorities, land managers, experts/professionals, government agencies and non-governmental organisations. Using existing knowledge and experience, the project team mapped stakeholders who are known to have an interest in 'important trees' listing organisations and individuals who could be approached to participate in the

research. This mapping process identified organisations and individuals suitable for participation in this research.

It was not within scope to engage with the public and local communities interested in 'important trees'.

Recruitment process

Selected stakeholders were contacted by email by The Tree Council to invite them to participate in the workshops. Those contacted were invited to recommend other organisations that should be included, which generated some additional participants.

Summary of participants

In total, we engaged with 46 different organisations across a range of sectors. Although several of these organisations were unable to attend the workshops, they were kept informed of the outcomes. They were also given opportunities to contribute to the recommendations and provide feedback remotely.

A breakdown of stakeholder types and number of participants for the two workshops is provided in Table 3 below. Appendix A contains a full list of all the organisations involved.

The participants reflected a range of the organisations involved or interested in the protection of 'important trees', from a variety of perspectives. For example, within the invited NGOs, there were organisations representing arboricultural professionals and other facets of the tree sector, as well as those representing conservationists and farmers. Within the local authorities, there was a mix of urban and rural, and different tiers of authorities.

Table 3: Participant summary

Stakeholder type	**Participant numbers**	
	Workshop 1	**Workshop 2**
Local authority	8	7
Land manager	2	4

Independent expert	3	6
Government agency	7	10
Non-governmental organisation (NGO)	14	11
Total	**34**	**38**

Future engagement

To further develop and implement many of the options, further engagement should include a wider range of stakeholders, for example different landowner and manager types and legal professionals.

2.3.2 Workshop 1

Overview

The first workshop, held in-person on 19th April 2024, sought to explore the characteristics that contribute to trees being considered of high social, cultural and environmental value, as well as gathering stakeholder views on the threats they face, existing protections, and opportunities for improved protection.

Participants were divided into groups for discussion facilitated by the research team and supported by note-takers. An external lead facilitator chaired the workshop. There were also several plenary sessions, including a project introduction, two case study presentations, and a wrap-up (see Appendix B for the slidepack and agenda).

Session summary

The workshop comprised three main sessions summarised below. The workshop session outlines are provided in more detail in Appendix C.

Session 1: Criteria for identifying ‘important trees’

Participants shared an example of a tree they considered being of ‘high social, cultural and environmental value’ and that was important to them. This served as an ice-breaker and the basis for a discussion on key criteria that makes a tree ‘important’. Where there was time, groups also discussed the idea of democratising the process for identifying ‘important trees’.

Session 2: Current threats and protections

Participants explored the range of threats to ‘important trees’, the existing protections and support in place and how effective they are, any improvements that could be made, and any gaps.

Session 3: Future protections

The third session gathered ideas and suggestions for improving protection of ‘important trees’. The participants were divided into groups based on their interest and they discussed three themes: policy and legislation, support and incentives, and novel suggestions for protection and cultural change.

2.3.3 Workshop 2

Overview

The second workshop, held online on 23rd July 2024, was an opportunity for participants to reflect on the findings from Workshop 1 and discuss in further detail some of the emerging options for improving protections for ‘important trees’ (see Appendix D for the slidepack and agenda).

Session summary

The workshop comprised two main sessions summarised below. The workshop session outlines are provided in more detail in Appendix C.

Session 1: Exploring emerging options

Prior to workshop 2, a list of emerging options was developed based on input from Workshop 1. This included 53 individual suggestions. Given the time constraints, it was not feasible to discuss each suggestion in detail during the second workshop, so it was decided to seek stakeholder input into which topics were most important to discuss. The 53 individual suggestions were consolidated into 36 emerging options, and participants were then asked to rank these options via a survey. The10 highest-priority topics were then chosen for discussion.

For each option, facilitators guided discussion in break-out rooms, according to a set of questions and prompts. These were designed to draw out more detail, such as exploring the impact the option could have, the factors for successful delivery, key stakeholders to involve, the risks to consider and any additional suggestions.

Session 2: Plenary and further opportunities for input

To conclude the workshop, the team presented the next steps and highlighted additional opportunities to provide input. Participants were invited to share further thoughts, either in the workshop or after. The full list of emerging options was then circulated for further feedback.

2.3.4 Further feedback

Full list of emerging options

Following the second workshop, stakeholders were encouraged to provide feedback on the full list of emerging options. Feedback could be submitted using pre-prepared forms, through direct comments on the list, or via other written formats (e.g., emails or separate documents).

Prioritisation exercise

Participants were also invited to carry out a prioritisation exercise in Excel, with the opportunity to score each option on a scale of 1 to 5, for three key factors: impact, ease of implementation, and speed of results.

2.4 Data analysis

All notes and other evidence gathered through the workshops and follow-up engagement were collated and analysed by the research team.

2.4.1 Workshop 1

The notes and worksheets from Workshop 1 were reviewed to draw out key findings relating to values and criteria that qualify trees as ‘important’, threats, and opportunities for improved protection and support.

The range of values identified by all participants were combined and consolidated to develop a visual representation. The notes were reviewed to identify any other existing protections that should be reflected in the final list of current protections.

The points and suggestions relating to threats and opportunities from each group were reviewed, collated and used to derive a long-list of ‘emerging options’ – these were then categorised according to type of option (e.g. regulatory, financial, research). All ideas reflected in the notes were retained at this stage to reflect the perspectives of all participants as far as possible. Where an idea had been expressed by different participants, they were consolidated to avoid duplication. This analysis underpinned the second workshop and continued engagement.

2.4.2 Workshop 2

The second workshop generated specific feedback and reflection on a short-list of the emerging options, as well as broader perspectives on the process. The notes were again collated and systematically reviewed to draw out key findings.

2.4.3 Further feedback

Overview

Further feedback was received from 11 organisations, including: a county council, a London Borough Council, a large land-manager, two representatives of government agencies/departments, three NGOs (two tree sector, one conservation), a professional body, an independent arboriculturalist, and an academic. This is a reasonably good representation in terms of the stakeholder types involved in the research but is a limited sample size. The timing of this exercise (August) is likely to have reduced levels of response, but it is also possible that many participants felt they had already had sufficient opportunity to express their views in the workshops.

The respondents used the different options for providing feedback as shown in Table 4.

Table 4: Summary of further feedback from the 11 organisations

Format of feedback	Number of respondents
Feedback forms for individual options	3
Comments or other written feedback (e.g. email or separate document)	6
Prioritisation exercise	5

As the respondents provided feedback in the different formats, as above, this resulted in a relatively small sample size for each format. However, the feedback was extremely useful, with many constructive points for the development and delivery of the options.

Prioritisation exercise

For the prioritisation exercise, there were only five responses, and most were partially completed – i.e. the respondent focussed on topics they felt able to comment on or felt were important. This is a small sample, so the findings should be considered as a useful additional piece of evidence, to be used alongside the wider findings to deliberate the best approaches. This process could be replicated with a larger or different set of stakeholders in future work.

The exercise aimed to understand stakeholder views on the (1) potential for impact, (2) ease of implementation, and (3) speed of results for each option. The responses were aggregated and the following was generated for each option: the number of scores, each respondent's scores (where provided), and the mean, minimum and maximum scores for each of the three factors. Colour-coding was used to highlight any mean scores of 4 or above, to show the high-scoring options for each factor and combined. Given the small sample size, no statistical analyses were carried out, but the data could be referred to when planning the delivery of any options or used in future if the exercise were repeated with different stakeholders or a larger sample. The trends were reviewed and summarised.

Section 3.7.1 provides a detailed discussion of the prioritisation exercise results.

Full list of emerging options

The feedback was reviewed, and the findings are discussed in Section 3.7.2. The full documents can be made available and would be useful to refer to in any future development of this work.

2.5 Recommendation analysis and development

The purpose of the research was to generate ideas and identify options for improving the protection of 'important trees'. A large number of wide-ranging ideas and options were put forward and discussed by stakeholders. The process has enabled the detailed discussion of many of these ideas, identifying those with higher levels of stakeholder support and potential impact, and exploring their feasibility and ease of delivery.

The research team has analysed and reviewed the evidence gathered to develop a focussed set of key recommendations, as outlined in Section 4. The method followed is illustrated in Figure 3 below.

The recommendations are deliberately high-level, aligning with the project's objectives of identify priority topics and key areas for future policy development, rather than producing detailed proposals or practical recommendations about how such trees should be managed.

Where possible, similar ideas have been combined and consolidated. All of the ideas and evidence gathered will be retained and can be revisited if any options are taken forward or further deliberation is needed.

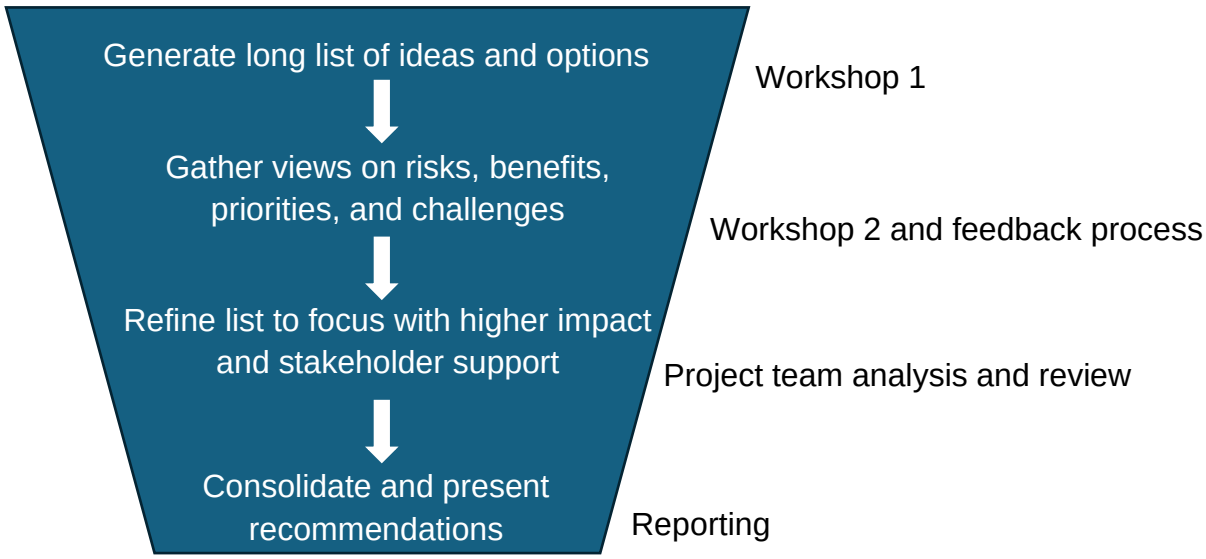

Figure 3: Process of generating ideas and refining into recommendation

2.6 Additional stakeholder engagement

Throughout the research process, additional opportunities for stakeholder engagement were taken. For example, the research team presented an overview of the research to the Historic Environment Forum. Separate meetings were also held with key stakeholders, including Natural England, The Woodland Trust and The Ancient Tree Forum, which resulted in further feedback and comments. The information was collated, and further details can be found in Section 3.8.

3. Findings

3.1 Section overview

This section sets out the findings from research activities described in the Methods section above and is structured as shown below in Table 5. For clarity, in each section we indicate which research activity the findings relate to. Where possible, we make recommendations for how the findings should be taken forward.

Table 5: Findings overview

Section	Topic
Section 3.2	Defining 'important trees'
Section 3.3	Understanding threats
Section 3.4	Existing protection and support in England
Section 3.5	Mechanisms of protection in other countries
Section 3.6	Opportunities to improve protection
Section 3.7	Findings of further feedback
Section 3.8	Additional stakeholder engagement

3.2 Defining 'important trees'

When considering how best to protect our 'important trees', it is necessary first to interrogate what we mean by an 'important tree'. Any protections put in place will rely on a system of identifying and designating trees within our landscape that can be considered important through a transparent and consistent identification process. The criteria, process and values framework used to identify these trees will influence which trees are protected, how many, where and who decides. This topic was explored in both Workshop 1 and 2, and the findings are described below.

3.2.1 Context

There are currently multiple systems in place to identify or define trees which are socially, culturally or environmentally important. This variety of systems can involve different definitions, terminology, criteria and scopes, which could contribute to confusion and inconsistency in their protection. One of the more common ways to classify “important” trees is to identify those which are valuable because of their age or habitat features. These trees can be defined through the terms **ancient trees** (one that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species) or **veteran trees** (one that has habitat features such as wounds or decay, which may be ancient but doesn’t have to be). The Tree Register of the British Isles identifies **champion trees** – those which are the tallest or widest (by girth) of their species in the UK. Trees which have a particular contribution or connection to history and culture may be recognised as **heritage trees.**

Currently, trees do not receive any default protection for meeting any of these criteria. Protection for individual trees most often comes from the tree being under a Tree Protection Order, which is designated based on the tree having “amenity value”. Amenity is not defined in law, so authorities must exercise their own judgement when deciding whether to make a TPO or not (MHCLG, 2014). The MHCLG guidance indicates that visibility of the tree to the public is a key factor, stating ‘The trees, or at least part of them, should normally be visible from a public place, such as a road or footpath, or accessible by the public.’ Authorities should also consider impact and importance of the tree or trees and should show that protecting the tree ‘would bring a reasonable degree of public benefit in the present or future’. While this can cover a range of different circumstances, it can prevent designation of trees which are not in public view or are inaccessible, which may still be valuable for other reasons. Given these circumstances, it seems timely to consider an alternative, more comprehensive approach which would consider a range of different values.

Despite the opportunity to consider cultural and heritage values with the options above, few, if any, of these formal recognition processes are accessible to the majority of people who will live near, visit and otherwise know and appreciate their ‘important trees’. The consideration of a wider range of values, including social and cultural values, and stakeholders, including the public, would help to democratise this environmental decision-making process. Such democratisation is something that the UK has committed to as a signatory to the Aarhus convention, which commits us to ensure public ‘access to information, participation in decision-making, and access to justice on environmental matters’ (United Nations, 1998) and the 25 Year Environment Plan (25YEP) acknowledges the importance of public and stakeholder

engagement for monitoring indicators and achieving environmental goals (Defra, 2022b). There are many reasons for and benefits to involving the public in decisions about their environment. Hafferty (2022) quotes Fiorino's three categories:

Normative reasons, i.e., providing the opportunity to engage in decisions about which 'important trees' to protect is 'the right thing to do'. That people have a right to influence decisions which affect their lives.

Substantive reasons focus on the benefits gained from incorporating more diverse knowledge and information into decision-making processes, therefore enhancing the quality of decisions and the evidence they are based on.

Instrumental reasons focus on how engagement can improve decision-making outcomes, viewing people's involvement as a way to increase the legitimacy of decisions, enhance the public credibility and trust of institutions, and increase the likelihood that people will take action to ensure those decisions are implemented.

3.2.2 Workshop 1 findings

To explore the subject of defining 'important trees' further, the first workshop session focused on identifying the variety of reasons a tree might be considered as important. This was followed by a discussion about who should be involved in the decision-making process when designating 'important trees'.

<u>What makes trees important?</u>

Participants were asked to share a tree that was important to them and explain why. Responses are summarised in Figure 4 below. This exercise demonstrated the wide variety of values that people hold in relation to trees and the importance of a holistic and well-considered approach to designation which can attempt to include these. Recent research by Forest Research for Defra has articulated the range of social and cultural values that people hold in relation to trees in general (O'Brien et al, 2024) and trees outside of woodland (Brockett et al, 2024). Social and cultural values are shared ways of thinking, feeling, behaving, responding to and communicating about the value of trees. As well as the more well-known health and wellbeing, recreation and aesthetic values, people may value 'important trees' in their lives for symbolic, sensory, spiritual and other reasons. In the first workshop people talked about how certain trees contributed to a sense of place, indicated 'home', were imbued with memories and gave them comfort, amongst many other articulated values.

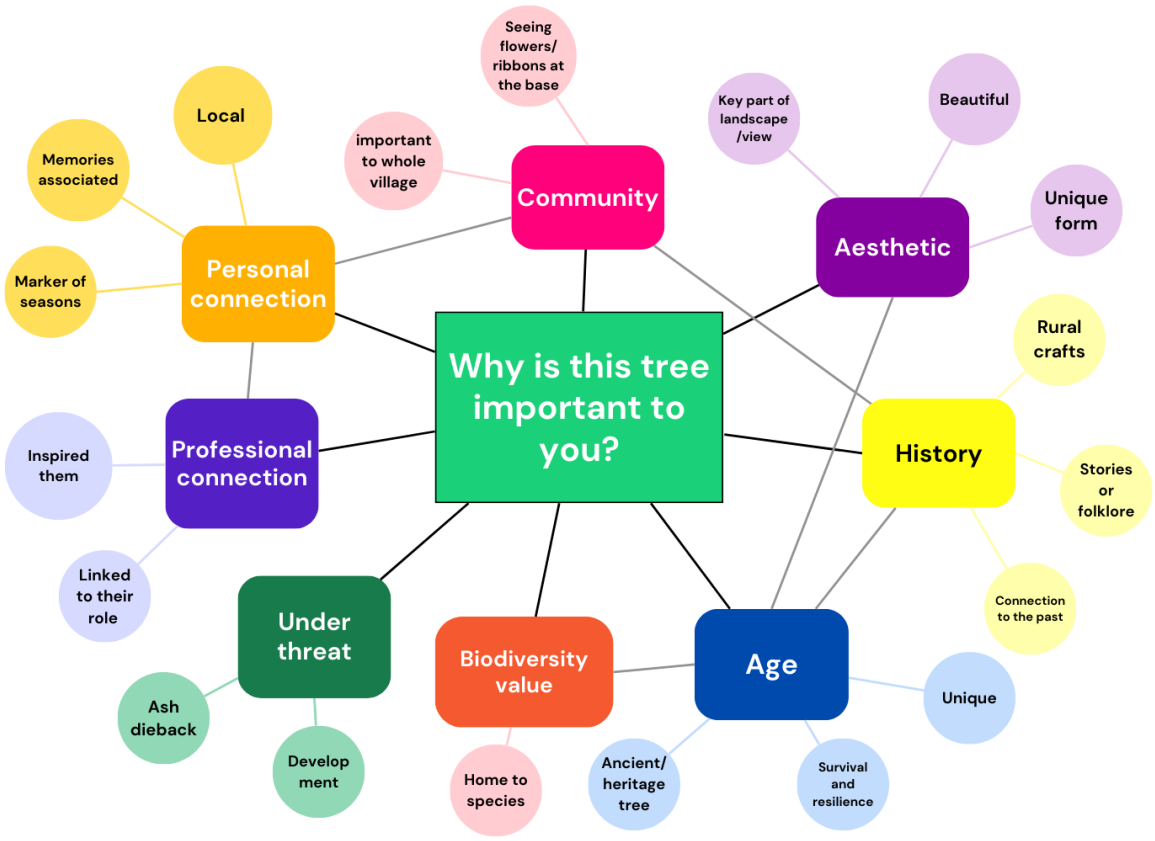

Figure 4: Visualisation of reported values of trees

Who is included in defining 'important trees'?

There was broad consensus that decision making about what constitutes an 'important tree' should be more inclusive and accessible, with young people, schools, and community groups highlighted as some important groups to engage with. As such, any designation system will need to incorporate a methodology which allows for participation from a range of individuals or groups. There are a number of examples and resources which can be used for inspiration and guidance and Hafferty (2022) is a good starting place. The Scottish Government has also recently produced a number of useful resources (see Scottish Parliament 2023, Scottish Government 2024).

In discussions about the accessibility of current processes for identifying trees of high value in the first workshop, participants raised concerns that the current TPO system can be quite exclusionary and elitist, as most of the responsibility for identifying these 'important trees' comes down to just a few people within local

authorities or who are otherwise ‘in the know’. In the second workshop it was also noted that many local authorities have an unspoken limit on the number of TPOs they will process within one year, due to the administrative burden.

3.2.3 Workshop 2 findings

In the second workshop, amongst other discussion topics, participants were invited to share their suggestions around the ideal design of a designation system for ‘important trees’ and consider some of the practicalities of implementing this.

Broad principles for a designation system

Similar to the first workshop, there was discussion around the multiple different values that would need to be incorporated into any proposed single system for designating and protecting ‘important trees’. While the potential for multiple different protection systems for different values (e.g. for ecologically ‘important trees’ compared to culturally ‘important trees’) was considered, the consensus was that a single, holistic designation would be more effective. Participants raised that current protections were too “bitty”, and that the multiple different definitions caused confusion. Having a single term, definition and designation for ‘important trees’ (or other chosen term) would be beneficial and favourable comparisons were made with countries where this is the case, such as Italy. The choice of term to describe such trees was also considered to be important in order to elevate the perception of ‘important trees’ to a similar level as built heritage.

Practicalities of developing and delivering a designation system

In terms of the practicalities of a designation system, a key consideration is how trees are chosen for inclusion (see Section 3.2.2 above). There were suggestions of existing systems that could be used for inspiration: for example, taking guidance from the criteria used in the Scheduled Monument system (Department for Culture Media and Sport, 2013); or, given that it is considered important to involve the public, using the peer review/panel of local people approach used to determine Local Wildlife Sites (The Wildlife Trusts, 2024). There was also the suggestion of using a tiered system similar to listed buildings (Historic England, 2024), where there are multiple Grades, to demonstrate trees with different “levels” of importance. Finally, there was discussion around who would be involved in the different stages: suggestions ranged from using a panel of experts (planners, lawyers, ecologists, heritage experts) to oversee the designation process, to making use of technology and social media to open up the process to the public – perhaps through nominations or voting options.

Another practical element that was discussed was the responsibility of the administration and implementation of the designation process, and who this would fall to. One suggestion was that this should be a cross-governmental responsibility, with Defra, Forestry Commission, planning authorities, Natural England and Historic England all playing a role, as this would ensure a more holistic approach. If the responsibility was to lie with Local Authorities, it would need to come with sufficient resource to allow for effective administration and implementation.

Finally, participants were asked if there were any further considerations or implications that could come with a new designation. This raised some important concerns, for example, whether drawing attention to trees through more publicised designation could lead to unintended consequences, such as increased vandalism or soil compaction from higher footfall. The importance of suitable deterrents and enforcement of protections for these 'important trees' was also raised in this context. Another discussion was around future 'important trees' – how can we effectively incorporate this into designation. This ties in with discussion on the importance of training and educating arborists and Tree Officers on identifying future 'important trees', which could include recognising the signs of the veteranisation process.

3.2.4 Recommendation

Based on the outputs of these workshops, we would recommend further government engagement regarding the identification of 'important trees', particularly around which stakeholders are involved in it. Any process should be able to consider the range of different values held and also be accessible to all who wish to engage.

In addition, we would recommend exploring a new designation system (potentially tiered) for 'important' or heritage trees.

3.3 Understanding threats

Once 'important trees' are defined, it is then necessary to understand the threats to these trees. Given that any type of tree could be considered important – whether young or old, large or small, or any species – theoretically any threat to trees in general may pose a risk to 'important trees'. In addition, trees that are not currently considered 'important' may become so in the future, so the health of the entire treescape is relevant. However, larger numbers of older and larger trees, especially of iconic species, are likely to be considered as important and these trees may face specific or different risks to the general tree population. This section therefore focusses on the evidence relating to threats to these types of trees.

3.3.1 Context

There is research on the threats faced by trees that might fall under any ‘important trees’ definition. For example, Nolan et al (2020) provide useful insight into the threats facing ancient and veteran trees in the UK. They reviewed the evidence within the Ancient Tree Inventory (ATI), which includes some records relating to threats observed by recorders. For their review, there were nearly 170,000 trees documented across the UK, the majority (83.1%) of which were in England. From the database, there were 17,499 instances of threats to specific trees, including: ‘Compaction of root area’ (31% of threats), ‘Grazing damage’ (27% of threats), ‘Over shading’ (15% of threats), ‘Major tree surgery’, (8% of threats), ‘Cultivation close to tree’ (7% of threats), ‘Vandalism’ (4% of threats), ‘Development or building’ (3% of threats), ‘Vehicle damage’ (3% of threats) and ‘Fire damage’ (2% of threats). The paper discusses the limitations of the recording process and the data, but this provides a valuable summary of the identified threats to the UK’s oldest trees. The ATI could also provide a useful opportunity for further research and monitoring.

Le Roux et al (2014) highlight that the way in which large old trees are managed often contributes to their decline – with a current emphasis on managing risk to people and property, and under-recognition of their ecological value. Given the length of time required for a tree to reach maturity, they propose a more balanced approach, with alternative practical strategies that maximise the standing life of trees in a safe manner. This indicates that current attitudes and priorities are an important factor in the retention of large trees.

Climate change is likely to increase the frequency of extreme weather, such as drought, storms, high winds, and flooding, which could threaten ‘important trees’. There are uncertainties around the resilience of trees generally to these types of stressors, and their ability to adapt (Woodland Trust, 2008) – there is limited evidence on the specific risk to ‘important trees’. Further, climate change may intensify the risks from tree pests and diseases (Tubby and Webber, 2010). Presently in the UK, the impacts of pests (such as Oak Processionary Moth), and diseases (such as ash dieback) are being felt. Tree health issues can directly impact trees and affect the ways they are managed – both of which may threaten ‘important trees’ and the range of services they provide (Boyd et al, 2013).

3.3.2 Workshop 1 findings

The threats to 'important trees' were discussed in Workshop 1, with the aim of understanding stakeholder experiences and perceptions. It also allowed us to shape the subsequent workshop session according to their priorities. Threats were identified collaboratively through a brainstorming session with the full group, with the lead facilitator inviting participants to suggest threats for inclusion, according to their own experience and expert insight. This produced a long list captured by the facilitator (presented below in Table 6).

Case study spotlight: The Newlands Corner Yews case study provides an example of the impacts of soil compaction in a high footfall site, and an example of how to respond to it (see case studies in Appendix E).

The list is wide-ranging, covering environmental threats (e.g. pests and diseases, drought, declining soil health), inadequate legislation and enforcement, public disinterest or lack of valuing of trees (resulting in e.g. vandalism, fire), high levels of footfall (e.g. resulting in soil compaction), poor management of trees, lack of resources (funding, skills, knowledge) and land use pressures (development, agriculture). The threats have been categorised below for ease of presentation, but this is simplistic – in reality, many of these threats are linked to or exacerbated by others and have complex underlying causes. For example, climate change increases the risk of tree pests and diseases; pests and diseases make tree management more complicated; this then can contribute to inappropriate management practices, especially in the context of a limited availability of skilled and knowledge individuals.

Table 6: Overview of identified threats

Type	Threat identified by participants	Description of potential impact
Environmental threats (which may be caused or exacerbated by human influence)	Climate change – increased risk of extreme weather conditions, such as drought and flooding	Flooding and waterlogging can restrict the supply of oxygen to tree roots and prevent normal functioning, could damage soil health and increase vulnerability to tree diseases. Drought can similarly be fatal if severe or repeated and increase vulnerability to pests and diseases. It can reduce tree growth and productivity.

Type	Threat identified by participants	Description of potential impact
	Pests and diseases	Can weaken or stress a tree, or cause its death (e.g. ash dieback), or cause public safety risk and lead to removal or other management.
	Vigorous storms	Storms can lead to broken or fallen limbs or fallen trees. While older trees may display some resilience, more intense or frequent storms with atypical wind directions could increase the threat of damage beyond normal levels.
	Natural decline	While not an unusual or human-driven threat, all trees will eventually decline – as many existing 'important trees' are older, this may lead to a gap in the population of 'important trees' unless there are successor trees.
	Soil degradation (due to, for example, acidification, agricultural practices, removal of organic matter, hydrological changes)	Deterioration in soil health, for example nutrient imbalances or compaction can undermine a tree's function and resilience, for example its ability to produce compounds needed for immune responses to pests and pathogens.
	Light competition	Shading by other trees can suppress or kill older trees.
Human behaviour and attitudes	Building damage and insurance claims	Trees can be considered to cause risk of subsidence, prompting insurance companies to recommend removal in some cases – there are complexities around liabilities and financial claims

Type	Threat identified by participants	Description of potential impact
		made to local authorities if removal not permitted.
	Development / housing pressure	Trees can be removed or physically harmed by development or inadequate protective measures, or giving low priority due to local competing land use pressures.
	Agricultural practices	Farming practices can lead to soil degradation and pollution or other damage to trees (e.g. by flailing hedgerows or operating large machinery close to 'important trees').
	'Not in my backyard' attitude	Can reduce the acceptance of trees growing and going through their natural life stages.
	Perceived financial burden	Landowners can be reluctant to retain trees if they perceive them as a potential financial burden (lack of financial support may contribute to this).
	Inadequate root protection area / soil compaction	Soil compaction, by people, animals, vehicles and machinery can adversely affect a tree's function and resilience.
	Fire damage / BBQs	Can result in physical harm to trees and its immediate environment which threatens its health and longevity. Can also lead to increased wildfire risk.

Type	Threat identified by participants	Description of potential impact
	Vandalism	Acts of deliberate harm to trees, affecting their health and causing distress to people who care about them.
	Lack of understanding of value of ‘important trees’	Trees are not afforded due consideration and their importance is not recognised in decision-making.
	Desire for tidiness	Trees can be at risk of removal or being managed to maintain an appearance of tidiness, for example to reduce leaf-fall or maintain a particular shape.
	Open access to trees / high footfall / soil compaction	People or livestock can be attracted to trees, causing soil compaction within their root protection area. This results in poor soil structure that restricts root development.
	Air pollution	Can affect trees and their environments in a number of ways – e.g. particulate matter deposited on leaves can inhibit photosynthesis, SO_2 and NO_2 emissions can lead to acidification of soils.
Legislation and enforcement	Lack of specific legal protection	Leads to lack of deterrents and penalties for tree-related offences.
	Unintended consequences of legislation	Example was that the 5 cubic metre threshold for felling licenses means landowners may fell trees before they reach that size.

Type	Threat identified by participants	Description of potential impact
	Lack of sentencing guidelines	Can lead to inconsistent and weak sentencing and insufficient deterrent to harming or removing trees.
	Planning system weaknesses	Lack of recognition and prioritisation of 'important trees' in the planning system, and planning decisions can override TPOs.
Resource pressures and challenges	Lack of funding for tree owners	Likely to lead to important management work being delayed or not carried out, or carried out to a poor standard, leading to decline of trees.
	Lack of funding for key bodies involved in protection and enforcement	Existing regulatory requirements and legal protections not well-enforced, compliance poorly monitored. Can also lead to lack of joined-up, collaborative working.
	Lack of people with the skills to provide advice and carry out works	Tree owners may receive in-appropriate advice, leading to poorly informed decision-making. Those working on trees may inadvertently cause harm to trees due to lack of understanding or skills for their specific needs.
	Lack of knowledge of effective management	Inappropriate or harmful management could be undertaken.
Management practices	Poor tree surgery	Can lead to inadvertent harm to the tree's health, appearance or form, and thereby impact its social, cultural and environmental value.

Type	Threat identified by participants	Description of potential impact
	Proximity of planting	Planting of trees too close to existing 'important trees' can increase competition.
	Lack of succession planning	When widespread, this lack of forward planning is likely to lead to a decline in the population size of 'important trees'.
	Over-emphasis on risk	Risk aversion among landowners and others can lead to inappropriate or unnecessary management or removal of trees.

Session 2 of Workshop 1 was designed to enable discussion of the existence and effectiveness of solutions to current and future threats. Ten of these threats were chosen by the research team for further discussion on individual tables, with five tables and two threats per table. If more time or tables allowed, some topics would ideally have been considered separately, for example pests and disease and soil health are substantial topics and it was difficult to cover both.

In this research, it was not possible to rate or rank the threats according to potential impact or urgency. Further research could be carried out to do this.

3.3.2 Other research

The Woodland Trust and The Tree Council are currently conducting a research project to investigate the condition of heritage trees; identifying threats impacting these types of trees. This research involves trained volunteers visiting the trees included in the Heritage Trees books published by The Tree Council and carrying out a basic visual assessment. At the time of writing, the data collected through this process is under analysis, and key findings will be shared with Defra and other stakeholders upon completion.

3.3.3 Recommendation

The threats identified by stakeholders in this process emphasise the diversity and complexity of threats that 'important trees' face – this indicates that a multi-faceted approach will be required to effectively safeguard the trees, rather than a 'silver

bullet' solution. Further research and monitoring could improve our understanding of the significance of the different threats and how they are related.

3.4 Existing protections and support in England

The identified existing legal protections and sources of financial support in place in England are listed in Appendix F. This reflects the findings of the desk-based review, plus feedback from stakeholders in the workshops.

3.4.1 Legal protections

Legal protection is an important tool for safeguarding natural assets like 'important trees' and would demonstrate the high value they provide to society. It could set and enforce requirements for their management and care and provide a deterrent to damaging or removing such trees.

Desk-based review

The desk-based review identified a range of regulatory mechanisms that have some relevance to the protection of 'important trees', for example Tree Preservation Orders (TPOs), felling licensing, and Conservation Area designations. However, these provide incidental, rather than intentional, opportunities and tools for protecting 'important trees'. This research has identified no specific, dedicated system of designating and affording legal protection to these trees (or, for clarity, ancient, veteran, or heritage trees). Their unique value is not specifically recognised in law. The regulations that have been identified as having some relevance are important for the problems they were intended to solve but are not designed to protect 'important trees'. The reliance on such regulations and systems is concerning and may give a false impression that there are effective regulatory tools in place. Further, responsibility for many of the existing regulations often falls on local planning authorities (LPAs), who have varying levels of resource and can have different interpretations, risking inconsistent and inadequate enforcement.

Biodiversity Net Gain (BNG) was identified as a possible means of protecting important trees. BNG considers ancient and veteran trees as irreplaceable habitat, to which any impact is unacceptable and requires bespoke compensation (Defra, 2024). It could therefore provide some improved protection from harm arising from development. However, BNG is in its infancy, and there is currently little evidence relating to its impact and compliance levels. It focuses on biodiversity value, which may leave some 'important trees' out of its scope.

Workshop findings

Existing protections were discussed in Workshop 1. The workshop highlighted some limitations and weaknesses of existing protections, which are noted in Appendix F (Table F1), and summarised here in Table 7.

Table 7: Summary of weaknesses of existing protection

Weakness	Summary
No specific legal protection	There is no specific designation or legal protection of 'important trees' – the protection they sometimes have (e.g. from TPOs) is not due to this status. There is a reliance on systems that were not designed for this purpose.
Inconsistent interpretation	Existing protections (e.g. TPOs) are not applied and enforced consistently.
Planning consent takes precedence	TPOs, the most relevant existing means of protecting individual trees, can be overridden by planning consent.
Protection is often reactive, not proactive or strategic	Existing protections (e.g. TPOs) appear to often be used reactively.
Social and cultural value overlooked	The social and cultural value of 'important trees' is often not recognised in existing systems, for example, the TPO system is based on amenity value.
Lack of resources	Key agencies and authorities lack financial and human resources to carry out their roles in protecting trees.
Fragmented, not joined-up	There is a lack of collaborative cross-organisational working between key agencies.
Inadequate enforcement and penalties	There is a lack of meaningful enforcement and penalties for offences relating to trees, meaning that there is insufficient deterrent, particularly for developers.

Monitoring is insufficient, and not centralised	There is no meaningful monitoring of 'important trees' and therefore little evidence regarding their condition and effectiveness of protection.

The discussions during the workshops highlighted that 'protections and support' can be interpreted more broadly than only government policy, regulation and funding. The workshop discussions therefore usefully expanded the scope of this research, for example to include public campaigns, mapping, skills and training, standards, guidance and advice delivered by non-governmental organisations. Existing examples of initiatives that contribute to 'important tree' protection are shown in Table 8.

Table 8: Other contributors to 'important tree' protection and management

Type	Examples	Lead organisation
Public campaigns	Tree of the Year	Woodland Trust
	National Tree Week	The Tree Council
Skills and training	VETcert	Arboricultural Association
	Approved Contractor Scheme	Arboricultural Association
	Ancient Tree Forum training courses	Ancient Tree Forum
Guidance and advice	Practical guidance on ancient and veteran tree management	Ancient Tree Forum
Standards	BS 5837 Trees in relation to design, demolition and construction	British Standards Institute

Mapping	Ancient Tree Inventory	Ancient Tree Forum and Woodland Trust

3.4.2 Financial support

'Important trees' are owned and managed by a range of land-owner types, including local authorities and other public bodies, private homeowners, charities (e.g. the National Trust), farmers, corporations and large estates – who have varying levels of financial resource, with some (e.g. local authorities) who are known to face significant constraints. The protection and management of 'important trees', which may often be older, larger trees in areas with public access, can be costly. Certain actions might be necessary to ensure the tree does not pose safety risks, remains healthy and can achieve its natural lifespan. Protection might include installing fencing or signage or rerouting a footpath. Management activities might include regular arboricultural surveys, complicated tree works, or soil rejuvenation. The lack of financial support was raised repeatedly by stakeholders in this research, as described below.

Desk-based review

This research identified several grant options under Countryside Stewardship, which have some relevance to protecting or managing 'important trees' (see Table F2 in Appendix F). This is administered by the Rural Payments Agency (RPA). These provide eligible landowners with some financial support to meet the costs of caring for their trees, including protection of in-field trees in arable systems and grassland, the management of traditional orchards (which could contain 'important trees'), veteran tree surgery and general tree surgery. The level of uptake is also shown in Table F2, based on 2023 figures (Defra, 2023). While these options are likely to be helpful in some cases, for example, supporting the cost of works on 1,900 veteran trees in 2023, the available amounts are limited (e.g. £488 per tree receiving works). Like the existing legal protections, these grants were not designed with the specific purpose of supporting the owners of 'important trees'. The management of 'important trees', which includes ancient and veteran trees, may require highly specialist advice and practical works, which can be costly. For example, the works required to manage the King's Ely Plane are estimated to cost £40,000 (see case studies in Appendix E). Many

Case study spotlight: The King's Ely London Plane and Newlands Corner Yews case studies provide insights into the high costs and unusual challenges of managing important trees (see case studies in Appendix E).

landowners would struggle to meet these costs and the existing grants would provide little support.

Workshop findings

A lack of financial resources for managing and protecting ‘important trees’ was raised as a key threat by participants at the workshops. This was a strong and widely held view.

The grants available under Countryside Stewardship, as identified in Appendix F (Table F2) were considered to offer ‘poor’ rates, not recognising the possible costs involved in managing ‘important trees’. It was stated that is easier to get funding for tree planting than for managing existing trees. Another participant described a discrepancy between government funding for the management of woodland and trees outside of woodlands, with the latter not being as well-funded. Should newly proposed legal protections lead to additional costs, resource-constrained tree owners could be disincentivised to retain the trees.

In discussions around the effectiveness of legal protection such as TPOs and Conservation Areas, a lack of resource to monitor compliance and carry out enforcement was also identified as a current weakness. Local authorities were identified as facing particularly acute financial challenges, with budgets ‘stripped’ - this was felt to contribute to inadequate and inconsistent enforcement of existing rules.

With regards to tackling the potential impacts of environment threats such as climate change and pests and diseases, insufficient funding was once again highlighted as a weakness in existing means of protection. For example, citizen science and monitoring of pests and diseases was considered an important means of protection but limited in effectiveness by a lack of funding. Similarly, local Trees and Woodland Strategies (TAWS) that incorporate resilience were recognised as valuable for improving resilience to climate change. However, they are not fulfilling their potential due to a lack of financial support for local authorities to develop and implement them effectively.

The scope of resource challenges was broader than financial, with a lack of skills and people also identified as key risks to the protection of ‘important trees’. Participants representing the arboriculture profession shared their views that tree care or management is too often viewed as a voluntary activity, and that the professional skills and in-depth knowledge involved in tree management are under-valued to a concerning degree. This was felt to have a negative impact on sector

capacity and staff retention, with arboriculture not seen as a rewarding or appealing profession.

In summary, based on this research, without provision of appropriate financial support, skills and monitoring, existing and new legal protections or other protection measures are likely to have limited effect and could lead to possible negative unintended consequences.

3.4.3 Recommendation

The research found no specific legal protection for ‘important trees’ and has identified weaknesses and limitations of existing mechanisms that are currently relied upon. It is recommended that legal protection is put in place, as part of a wider, holistic approach to improving the retention and management of ‘important trees’.

In addition, government should explore providing funding to support the owners of ‘important trees’ to meet the costs of their protection and management; a further assessment of these costs is recommended. The resource constraints of local authorities and enforcement agencies should also be reviewed and addressed.

3.5 Mechanisms of protection in other countries

3.5.1 Summary of findings

Our findings have been organised into a summary table, which can be found in Appendix G. Key information is detailed below.

3.5.1 Legal protections

All of the European countries we examined (using the Method in Section 2.2.2) protect their ‘important trees’ as ‘natural monuments’ through national laws and local regulations (Kosiorowska & Szymczak, 2020). Some of these laws date back to the 1930’s, as seen in countries like Portugal and Italy. Although the terminology varies, ranging from ‘Árvores de Interesse’ Público’ (translated to ‘Trees of Special Interest’) to ‘Green Monuments’ the concept remains similar, in that trees are designated for protection based on their historical, ecological or aesthetic importance (Lopes et al, 2019). In Italy and Poland, the laws are supported by guidance from the International Union for Conservation (IUCN), which classifies such entities under its Category III (Natural Monuments) (Dudley et al, 2018). In addition, the EU’s Habitats Directives contribute to tree protection through broader biodiversity initiatives like Natura 2000, alongside other local, national or international environmental legislation (European Commission Habitats Directive, 2024).

New Zealand has a system in place to protect its ‘important trees’ through mechanisms like listing them as Scheduled or Notable Trees and designating them within Significant Ecological Areas (SEAs). Local district councils are responsible for identifying and safeguarding significant trees within their regions. Trees recognised for their historical, cultural, or ecological value are listed in district plans under the category of Notable Trees. These protections are enforced by the Resource Management Act 1991 and local government regulations. If the trees in question are included in the Notable Trees Schedule or fall within a SEA, they are legally protected and removing them would require a resource consent (Auckland Council, 2024). Although these mechanisms appear robust, the regulations can be confusing according to the New Zealand Tree Council (The Tree Council NZ, 2024).

3.5.2 Process of designation and criteria

All four countries had different processes for designation, but a common feature across them was the opportunity for anyone, including members of the public, to recommend a tree for protection. Once a recommendation is made, the tree goes through a review process before being designated. In some countries the process is handled locally, while others, such as Italy, requires approval at the local level before being finalised at the national level (Ministry of Agriculture, Food Sovereignty and Forestry, 2024).

The criteria for designation also varied but were generally based on its historical, ecological, or aesthetic significance (Kosiorowska & Szymczak, 2020). In 2013, Italy introduced a clear set of guidelines for defining monumental trees, which includes factors such as extreme longevity, unusual size, species rarity, historical and cultural relevance, and ecological value (Moens, 2021).

3.5.3 The number of designated trees

The number of trees or stands of trees designated as important varies significantly across the countries we examined. In Portugal, there are 452 isolated specimens and 88 stands of trees classified as Árvores de Interesse Público (Floresta.pt, 2023), while Italy has 4,288 Monumental Trees or homogenous tree systems (Ministry of Agriculture, Food Sovereignty and Forestry, 2023). Poland, on the other hand, lists 8,500 trees as Green Monuments (State Forests, 2015). Although it wasn’t possible to obtain an exact number of ‘notable’ trees in New Zealand, on a local level, we found that the Tasman District Council, which covers roughly the same area as Devon and Cornwall combined, has designated 575 notable trees or groups of trees (Heale, 2021).

While factors such as country or district size, population, tree cover, and classification criteria need to be considered, it is interesting to note the variation between the countries.

3.5.4 Responsibility for regulation and enforcement

In Italy, Portugal and Poland, the responsibility for regulation and enforcing tree protection lies with the national government body, with support and implementation at local level. In New Zealand, however, enforcement is managed at a district level, and this localised approach allows for tailored protection measures that consider the specific needs of the local community and environment. While this system generally works well, relying on local councils can lead to inconsistencies in how tree protections are applied across different regions (Heale, 2021).

Fines and penalties for damage to protected trees vary between countries. In Portugal, fines range from 500 to 500,000 euros depending on the nature of the offence (Decree Law 53, 2012), while in Italy, they range from 5,000 to 100,000 euros (Decree Law 12, 2013). In Poland, fines are calculated based on the species, age, size of the tree, and its location (Nature Conservation Act, 2004)

However, it's unclear how frequently fines are issued each year for violations, and there are concerns about inconsistencies in enforcement, particularly due to limited resources at the local level, an issue noted in all the countries we reviewed.

3.5.5 Funding and support

In Poland and New Zealand we found evidence of funding available to owners or managers of ‘important trees’. For example, in Poland, a jurisdiction which cares for 40 of these trees has a small pot of £4,000 per year to pay for priority tree care and expert consultants (Woodland Trust, 2023). In New Zealand, members of the public who are guardians of a tree on their property also have access to government funding to support tree care and management. However, research shows that while these funds are useful, the process to access them can be complex (Heale, 2021).

3.5.6 Conclusions

All the countries we reviewed had robust protections in place, with the designation of trees as ‘Green Monuments’ or ‘Notable Trees’ a key mechanism of protection. Although each countries mechanisms have their own strengths and weaknesses, as listed in the in the summary table in Appendix F, it is clear that the following points are key for effective delivery:

- **Robust legal protections:** Both at a national and local level, and possibly supported by international guidance (e.g., IUCN).

- **Clear criteria and designation process:** There should be clear criteria for designating trees and an accessible and clear designation process, either managed at a local or national level
- **Public engagement and awareness:** Involvement of the public in locating, designating, and caring for trees allows buy in and strengthens protection, especially at a local level (Kosiorowska & Szymczak, 2020). Some countries provide accessible online maps (e.g., Italy and Portugal) or list them in local plans (e.g., New Zealand).
- **Financial incentives and support**: Adequate resources and support should available for locating, managing, monitoring, and regulating trees successfully. For example, in Poland, trees are evaluated annually, and management objectives are determined for each tree (Woodland Trust, 2023).
- **Fine and penalties**: Enforcement is key to ensure that fines and penalties remain a deterrent.

3.5.7 Recommendation

Based on our research, the designation of trees appears to be an effective strategy in other countries when supported by complementary mechanisms such as legal protections, financial incentives, and awareness-raising initiatives.

Moving forward, we would recommend a thorough evaluation of the systems and mechanisms employed in these countries and others. This evaluation should include a comprehensive assessment of what has worked well and what can be learned from countries that have been implementing these protective measures for many years. Additionally, facilitating further research and knowledge exchange with counterparts in these countries would be beneficial.

3.6 Opportunities to improve protection

3.6.1 Workshop 1: Identifying options for improving protection

A long list of emerging options to mitigate identified threats and improve overall protections for ‘important trees’ is outlined in Appendix H. This list was compiled following Workshop 1. The list shows the diversity and breadth of suggestions and ideas that stakeholders feel would contribute to improved protection of ‘important trees’. It emphasises the need for a holistic, integrated and evidence-led approach, underpinned by improved recognition and designation of ‘important trees’. Some suggestions involved changes to, or better use of, existing systems (e.g. expanding the scope of TPOs, promoting Tree and Woodland Strategies, and reviewing felling licensing), while others may require the introduction of new legislation or

mechanisms (e.g. the introduction of a new designation system, a new guidance hub, or developing a new funding pot to support tree owners).

Emerging options

In total, there were 53 suggestions, which were then organised into seven categories. These are presented and discussed in further detail below.

Figure 5: Categories of emerging options

Regulation and policy

As noted above, the emerging options in this area included suggestions to improve existing regulations and policies, as well as novel ideas. Changes to the Tree Preservation Orders (TPOs) system were suggested to make this more suited to protecting 'important trees', including reviewing the term 'amenity value' to better include social and cultural and biodiversity value. It was also suggested to reframe this to a tree 'management' or 'stewardship' order to reflect that trees are living and dynamic organisms with changing management considerations over their lives – and that their surrounding environments also change.

Planning policy was considered an area of policy with significant opportunity and need for change, with the National Planning Policy Framework and National Policy Statements referred to as key documents. There was a call for greater weight and consideration of protecting ‘important trees’ and safeguarding the next generation, plus more accurate definitions of ancient and veteran trees. The development of consent orders were also raised as a possible useful approach. There was a mix of hopefulness and uncertainty regarding the potential for Biodiversity Net Gain to encourage developers to consider ‘important trees’ – the fact that this is a relatively new mechanism was a source for this uncertainty.

The felling licence system and the Forestry Act more generally were identified as another opportunity, for example to expand its scope to all trees above a certain size threshold. Better use of Conservation Area and Protected Area protections for ‘important trees’ was put forward as an option.

Novel ideas for regulation included a legal requirement for those working on ‘important trees’ to have a minimum qualification (such as VETCERT), and the development of regulation or policy instruments to prevent insurance felling.

The other key point in this area of discussion was around more effective enforcement of existing legislation. These suggestions included better sentencing guidance for relevant offences and a more joined-up approach across different agencies. Changes to fines were also suggested to act as a greater deterrent – for example by allowing judges to award higher fines to include the legal fees of prosecuting parties, and by linking the extent of the fine to the total value of the tree, including all ecosystem services.

Financial support and resources 

As mentioned in Section 3.3 of this report one of the notable threats to ‘important trees’ is the lack of resources available to support appropriate management practices. This was echoed by the suggestions that fell under this topic, with need for greater access to funding recognised in a variety of options put forward. These included developing a specific funding pot available to those who own or manage ‘important trees’, including homeowners who have trees on their premises, and local authorities.

Participants emphasised the need for sufficient financial resources to ensure that each local authority can have at least one tree officer. Other areas that were flagged as requiring further funding included: tree related education, land surveys to identify ‘important trees’, and enforcement of legislation or protections. These suggestions overlap with other emerging options, reinforcing that effective protection will require a holistic approach that accounts for these resource pressures and limitations; many suggested interventions will require additional funding and resource.

The participants also explored various methods for raising and distributing funds, highlighting green finance and corporate sponsorship as potential sources. Additionally, they suggested implementing reduced council taxes for homeowners with important trees’ on their property. Another interesting suggestion involved establishing a bond system, requiring that a tree be maintained in good condition for a specified number of years before any payment is released. A similar bond system was proposed for developers, stipulating that they must take out a bond when operating in areas with ‘important trees’. This bond would be repaid at the end of the project on the condition that the trees remained healthy.

Research and evidence

The workshop also highlighted some of the research gaps in this field, with several suggestions of areas that required further evidence. These were wide ranging and included the benefits and risks of the veteranisation process in trees; the impacts of climate change on ‘important trees’; the effectiveness and impacts of different tree management techniques; and understanding what the public value about ‘important trees’, to inform this element of any definition or designation system.

The importance of monitoring ‘important trees’ to provide some of these answers was raised, and citizen science projects and collaborations with local authorities were suggested as potential routes to do this. As discussed in the previous topic, enabling these monitoring projects would require financial support.

Skills, standards, capacity building

As well as financial resources, participants also raised the need for resources in terms of time and people with the necessary skills and knowledge to manage ‘important trees’. There was a clear consensus around the need for increased capacity within the sector. Suggestions to encourage recruitment included offering

incentives such as a bursary to those training in relevant disciplines or joining careers in the sector. Additionally, ensuring fair compensation for roles like tree officers and arboriculturalists was emphasised as essential.

Alongside this, there were also proposals for improving the knowledge of those already in the industry by incentivising existing certification and training. There were also suggestions to develop further training or apprenticeships specifically focused on the care and management of ‘important trees’.

To increase access to knowledge for a wider audience, including private landowners who are responsible for ‘important trees’, a guidance hub approach was suggested. This would make advice on good management practice more accessible and could include case study to illustrate effective management and strategies. Tree owners could also be encouraged to keep “tree log books” to document any changes in condition or works that had been done. These records could then be transferred to new owners when property ownership changes, ensuring continuity in tree care.

To ensure that tree works are only carried out by those who are skilled and trained in dealing with ‘important trees’, an Approved Contractor Scheme was raised as a possibility (note that the Arboricultural Association has an ‘Approved Contractor Directory’), and to then make it compulsory for public sector organisations to use Approved Contractors.

Awareness and recognition

Another topic which many suggestions coalesced was the need for greater public and political awareness and appreciation of trees, as this could increase support for their protection. There were many suggestions for how this could be done, including events such as a tree bank holiday or a ‘Living Legends’ week, media campaigns and television series. Additionally, there were suggestions for appointing national figures dedicated to tree advocacy, such as a government minister for trees, a ‘Lord of the Trees’, or a ‘Tree Laureate’.

Increased recognition for individual trees was also proposed, for example by having a plaque scheme to label important or historic trees, giving all special trees a name, or by giving trees a legal status as has been done with rivers.

Children and young people were also mentioned as a key audience for improving engagement and meaningful connection with trees. Suggestions included adding tree climbing or similar activities on the school curriculum and making more tree

houses available. This also linked with points about funding for schools and ensuring that children could visit ‘important trees’ on field trips and connect with local trees generally.

These thoughts around the importance of awareness and engagement also fed into the suggestion of a more democratic approach to designating ‘important trees’, to ensure there was buy-in from communities in the process and outcomes.

Collaboration

While the delivery of many of the options discussed above would require collaborative work between different organisations or stakeholders, there were some specific suggestions as to how this could be facilitated. These included setting up an ‘important trees’ taskforce, to encourage ongoing collaboration between a range of stakeholders, and making use of existing groups, like the London Tree Officers Association (LTOA), to improve collaboration on relevant topics between those in similar roles within the sector. The LTOA was also identified as a potential model of best practice for other similar groups to be set up (noting that there are already other tree officer groups and networks).

Finally, the value of seeking lessons learnt from international partners (such as the countries implementing designation systems, with examples in Section 3.5) was brought up in multiple contexts throughout the workshop, and so facilitating international knowledge exchange was flagged as an opportunity.

Practical management options

The emerging options included specific suggestions regarding the technicalities and practicalities of managing ‘important trees’, which could be included in guidance or recommended as best practice. Some examples of these ideas included translocating ‘important trees’ when threatened by development, at the cost of the developer; reinstating pollarding as recommended practice for management and utilising Sustainable Drainage Systems for providing sufficient water to ‘important trees’ and reducing the risk of waterlogging. These types of suggestion were noted and can be fed into any future research or policy where relevant, however they are not strictly within the remit of the research questions and therefore not included in the final recommendations of this report to Defra.

The importance of developing and implementing succession plans for future veteran and ancient trees was raised – leading to the suggestion of a national programme to promote growing the next generation of 'important trees', and a seedbank derived from existing ancient and veteran trees to allow their offspring to be planted as replacements.

3.6.2 Workshop 2: Strengths, weaknesses and risks of emerging options

While the first workshop involved some discussion around the list of emerging options, there was little time to consider the associated strengths, weaknesses, benefits and risks, or to explore the levels of consensus among the group. Therefore, in Workshop 2 some of the suggestions were considered in more depth.

As described in Section 2.3.3, the 10 highest-priority discussion topics had been selected through a survey in advance, and were as follows:

- Develop a designation system for 'important trees'.
- Review Tree Preservation Orders (TPOs) to expand scope.
- Ensure all local authorities and other enforcement agencies have sufficient level of resource to protect 'important trees'.
- Review felling licensing system scope to encompass all large trees.
- Set up a taskforce or group that focusses on 'important trees' going forward.
- Develop a funding pot for owners or managers of 'important trees'.
- Develop and launch a 'Tree Code' – similar to the Countryside Code.
- Introduce legal requirement for minimum training/qualifications for those working on 'important trees'.
- Develop a guidance hub for owners and managers of 'important trees'

A summary of the views expressed by stakeholders in Workshop 2 is provided in Appendix I and highlights are discussed below.

Highlighted findings

Largely, the options discussed in the workshop were supported by stakeholders, and the evidence gathered provides additional justification for the majority, along with useful detail to consider regarding their delivery. For example, when considering the potential for a funding pot available to landowners who manage 'important trees', some possible mechanisms were suggested, such as being delivered by the Heritage Lottery Fund or a similar model, or through existing schemes like Environmental Land Management (ELM) schemes.

There was disagreement in relation to the proposal for introducing a “legal requirement for minimum training / qualifications for those working on ‘important trees’”. Some considered that this would be difficult to implement and enforce. These participants felt that this could be reworded to encourage training and qualifications, rather than require them.

Risks were identified for all the options discussed, particularly around resourcing and the capacity of key stakeholders to deliver them. It was strongly emphasised that new requirements or systems must be accompanied by financial support, advice and guidance to support these stakeholders.

For each option, workshop participants were asked to identify stakeholders who should be included in future discussions. While there was consistency across options, with a core set of frequently mentioned organisations like NGOs and government agencies, some options required specialist stakeholders—for example, colleges and training providers were suggested for options related to skills, training, and capacity building. Additionally, various government departments were recommended for involvement, with specific departments varying by topic.

Across the recommendations, a common outcome was that experts from multiple disciplines and organisations would be required to feed into the process. For example, when changes to TPOs were discussed, experts in the legal, planning and arboricultural fields were all identified as important stakeholders, and a similar group for creating a designation system, along with the heritage sector experts and social scientists. This therefore supports the recommendation of creating a taskforce which could bring all these individuals together.

A recurring theme across the suggestions was the need for input from experts across various disciplines and organisations. For example, when discussing changes to Tree Preservation Orders (TPOs), stakeholders identified legal, planning, and arboricultural experts as essential contributors. Similarly, establishing a designation system would require collaboration among these experts, along with heritage sector specialists and social scientists. This therefore supports the recommendation to form a task force that could bring together all relevant experts for a coordinated approach.

3.7 Findings of further feedback

Following Workshop 2, participants were invited to provide further feedback on the full list of emerging options, in a range of formats – through a prioritisation exercise, through commenting on the list or filling out a pre-prepared template. The findings of these are described below. As described in Section 2.4.3, the response rate was low, so while the feedback was useful, it represents the views of a limited number of stakeholders.

3.7.1 Prioritisation exercise

The results of the prioritisation exercise are presented in Appendix J.

Potential for impact

Encouragingly, 50 of the 53 options were rated highly for potential impact, scoring 4 or above on average. It is notable that there are high impact options in every category, again emphasising the support for a holistic approach. It is however worth noting that there were slightly lower impact scores for public awareness actions compared with other categories.

The options with particularly high impact scores – averaging 4.5 or above are shown in Table 9 below. This list provides one part of the evidence around the potential impact of these options and the level of priority that should be given to them – it is important to consider all the evidence gathered.

Table 9: Options rated as high impact by participants (based only on prioritisation exercise)

Category	Options scoring higher than 4.5 for impact*
Regulation and policy	3. Improve enforcement (and 3a – better sentencing guidance that links fines to the value of trees, 3c – target senior management, 3d – ring-fence fines using Proceeds of Crime Act, 3f – give enforcement bodies 'more teeth' and 3g – judges to award higher fines including legal costs). 7. Prevent insurance felling 9. Review key planning policy to better protect 'important trees' (and 9d – consider replacement of 'important trees' and next generation). 13. Change legal principle so there is a presumption against felling.
Finance and resources	16. Develop a funding pot for owners / managers of 'important trees'.

Category	Options scoring higher than 4.5 for impact*
	17. Ensure each local authority has a sufficient level of resource for at least one tree officer. 21. Funding for those who administer or enforce protection schemes (i.e. if a new listing scheme is put in place). 22. Utilising corporate sponsorship as a source of funding. 23. Require developers to take out a financial bond when working in areas containing 'important trees'.
Research and evidence	25. Explore opportunities to fund and enable citizen science projects to identify and monitor 'important trees'.
Skills, standards, capacity building	31a. Guidance for tree owners – case study examples. 31b. Guidance for tree owners – develop tree 'record books' that document condition and works and can be passed to new owners/managers. 32. Develop training / apprenticeships on important tree care. 33b. Encourage people to join the sector – ensure fair payment of tree officers and arboriculturalists. 33c. Encourage people to join the sector – incentivise certification and training.
Awareness and recognition	43. Give special trees a name or legal status. 45. Change the way we value trees – emotional connections and cultural heritage needs to be emphasised.
Collaboration	47. Set up a taskforce to facilitate ongoing collaboration and accountability.

***The option numbering here reflects that in the Prioritisation Exercise.

Ease of implementation

Only 13 of the options were rated 4 or above on average for ease of implementation, which indicates that although many options have high potential for positive impact, stakeholders perceive that there are likely to be delivery challenges. This further highlights

the need for well-considered implementation, and for further stakeholder consultation to develop the options further – both internally (i.e. within Defra, Forestry Commission, Natural England) and externally (with key stakeholders). While it is difficult to draw conclusions from this small sample, it is interesting that stakeholders appear to consider that options in the 'Skills, standards and capacity' category offer several options considered easier to implement.

Speed of results

Only 10 of the options were rated 4 or above on average for speed of impact, suggesting that stakeholders believe most actions are unlikely to be a 'quick win' – while many are worthwhile and likely to have a strong positive impact, the benefits may take time to be realised. This adds some urgency to decision-making, as the sooner that decisions are made, and options taken forward to development and roll-out, the sooner those benefits can be achieved. Delay now could mean the sad – and preventable – loss of many ‘important trees’. The respondents considered that some of the options in 'Regulation and policy' and in 'Skills, standards, and capacity' – offer quicker results, which may be helpful in developing a road-map for action.

All three factors

Only four options scored 4 or above across all three categories, and the response levels for these options were low – all had only one respondent. Nine options scored highly across two of the three categories, but again the sample was low – largely only two respondents. With such limited data, it is not recommended that this alone is used to select or prioritise options.

In summary, the findings of this exercise offer useful insight into the possible impact, ease of implementation and speed of results associated with different options. Perhaps most importantly, there are a large number of options rated highly for potential impact, as listed in Table 8.

3.7.2 Written feedback on the full list of emerging options

Detailed written feedback was received from several stakeholders, offering useful insights, practical support, and contact details. A summary of their feedback is in Appendix K and should be referred to in future development of any options. We gathered feedback for a large number of ideas in a relatively short period of time, and it is likely that further detail from a wider sample could be obtained with more time and using different methods.

<u>Points of support</u>

There was widespread support for several proposals discussed, including:

- A new designation system

- Strengthening legal protections
- Reviewing TPOs and felling licences
- Creating a new funding for tree owners
- Providing more resources for local authorities and enforcement agencies
- Improving sector skills and knowledge

This feedback provides useful suggestions for the development and implementation of future options

Stakeholder concerns

Need for sufficient focus on soil health

One stakeholder emphasised the need to focus on the issue of soil degradation, feeling that it should be better recognised in the list of final recommendations. Their proposals included ensuring that any 'important trees' are subject to an evaluation of their condition and threats (including a soil assessment), which can then underpin a management plan. They also highlighted the urgency of taking action where evidence already exists, although useful and targeted research is beneficial. Training in this area should be improved, and VETcert could be better promoted to increase uptake. The examination process could also be expanded to include more detail on tree and soil health.

Objection to proposed use of Sustainable Drainage Systems

There was objection to the proposed use of Sustainable Drainage Systems (SUDS) to ensure trees have access to water – one stakeholder highlighted that changing a tree's hydrological regime can cause more issues than it solves.

Objection to translocation of threatened 'important trees'

There was also objection to the idea of translocating 'important trees' at threat from development – it was felt that 'important trees' should be retained, with no need for translocation if they are suitably prioritised. Indeed, other stakeholders highlighted that the removal of an important tree from its place and context would undermine its social and cultural value, and would be highly risky. It would also risk harm to the soils, which would be as ancient as the tree, and the surrounding environment and biodiversity.

Objection to the wording around funding the replacement of 'important trees'

There was objection to the wording of the suggestion to 'Fund landowners to plant replacements of ancient and veteran trees or establish new ones'. A stakeholder explained, this weakens the idea that such trees are irreplaceable. They suggested reframing any such proposal to focus on succession and bolstering future 'important trees' by identifying mature trees with the best potential and incentivising their stewardship.

Another stakeholder objected too – saying that ancient and veteran trees should only be removed if they are diseased and cannot be saved.

Need for focussed review of felling driven by insurance reasons

A stakeholder pointed out the possible need for legal review to address the issue of felling trees for insurance reasons. This is a potentially complicated issue, as it pertains to liabilities and financial costs to various parties. Another stakeholder suggested an argument that where a tree is older than a building, the building should be constructed to withstand any impacts from the tree. This is an area which may require further deliberation, and it might be beneficial to engage with the insurance sector, perhaps involving them in a future taskforce.

Need to avoid duplication and adopt a collaborative approach

Stakeholders emphasised the importance of avoiding duplication and adopting a joined-up and collaborative approach wherever possible. For example, better data, monitoring, and analysis is needed – the Ancient Tree Inventory provides an existing citizen science mapping initiative, and the Woodland Trust publish a 'State of the UK's Woods and Trees' report – rather than duplicating these, they could be enhanced and adapted by working with the key organisations. Their findings could be better recognised and responded to by decision-makers.

Future areas to explore

The written feedback also flagged some additional areas to explore in future, including:

- Seeking World Heritage Status or UNESCO Biosphere Reserve status for areas with a number of 'important trees';
- Automatic protection to all trees in Registered Parks and Gardens, and Deer Parks in private ownership; and
- Faculty Jurisdiction over trees in Church of England churchyards.

Unintended consequences and risks

Throughout the research process, the potential for risks and unintended negative consequences was raised. As an example, designating trees as special or important could lead to higher visitor numbers, which could in turn pose risks to the tree, such as through soil compaction. Another example raised is the potential to intensify resourcing and sector capacity issues by creating new requirements or burdens without addressing existing resource issues. Such risks can be managed, but any proposed changes should be carefully considered and relevant stakeholders consulted to understand how they might respond and how any risks can be mitigated.

Conclusion

Overall, stakeholders called for pragmatic approaches and actionable recommendations that deliver timely results and recognise the broad value of ‘‘important trees’’. It was considered important to avoid duplication and vital to coordinate research and action, with many organisations offering to collaborate on and support continued efforts. All the feedback has been considered in the refinement of the final recommendations detailed in Section 4.

3.8 Additional stakeholder engagement

Throughout the research process, additional opportunities for stakeholder engagement were taken, which resulted in further feedback and comments to support our research and findings. A summary of these engagements, including key discussion points, is presented in Appendix L.

4. Recommendations

4.1 Section overview

This section sets out the project's final recommendations and indicates a potential path forward for better protecting 'important trees'. It includes eight broad, over-arching recommendations (Section 4.2) which would underpin future action, plus a series of specific, categorised recommendations (Section 4.3) where effort can be focused.

4.2 Overarching recommendations

This research has identified a range of practical and impactful options that have strong stakeholder support. These are wide-ranging and some will involve a variety of stakeholders within and outside of government.

We present eight over-arching recommendations, listed below. These are then supported by the longer list of more specific recommendations in Section 4.3.

A holistic and collaborative approach is essential to delivering successful outcomes. Collective action is necessary to integrate the unique value of 'important trees' into policy and decision making. Without timely action, there is a strong risk that we will lose these valuable trees to the threats identified in this research (as described in Section 3.3).

4.2.1 The eight over-arching recommendations

1) **Initiate and facilitate a mechanism for continued engagement of key stakeholders within the next 12 months to better protect 'important trees':** This should include stakeholders within government and its agencies, as well as representatives from relevant sectors such as NGOs, local government, the historic environment, and nature conservation organisations. The first responsibility of the taskforce should be to clearly define 'important trees' and subsequently develop an action plan (see below).

2) **Develop an action plan for 'important trees':** This should draw on the findings of this research and take a holistic and integrated approach. New and improved legal protections and funding should be prioritised, supported by actions around skills and capacity, evidence, awareness and collaboration.

3) **Improve the legal protection of 'important trees':** Current legal protections, such as TPOs, are insufficient to protect our most 'important

trees'. The stakeholder group should therefore conduct a review of current legal frameworks and enforcement mechanisms and develop a robust and effective system to ensure the protection of 'important trees'.

4) **Develop a public and private funding framework, to support owners and agencies in the management, regulation and protection of 'important trees':** Currently, funding for vital tree work to retain and protect our 'important trees' is scarce. The recommendation is that financial support, drawing from both public and private sources, should be available to the owners of 'important trees' to help develop and implement management plans.

5) **Enhance data on current and future 'important trees' so that protection and conservation efforts can be better targeted and monitored**: Some data exists on ancient and heritage trees (e.g. The Ancient Tree Inventory), however this data should be enhanced and reinforced so that it provides a comprehensive view of the 'important tree' population and how it is changing over time.

6) **Appoint a Special Representative for 'important trees' to champion them at the political level:** 'Important trees' need better representation and a champion should encourage and enable the development of political and public engagement with this group of trees.

7) **Continue to lead positive engagement for 'important trees' with government and its agencies, NGOs and others,** plus explore international knowledge exchange, to further develop best practice for effective legal protection and designation.

8) **Improve skills and capacity to manage and protect 'important trees' with targeted provision for different audiences** including tree owners, arboriculturalists, and career entrants. This could include an online guidance hub, training courses, and apprenticeships.

4.3 Specific recommendations and areas for focused action

The research has identified specific areas for focus that are presented in six categories, as shown below in Figure 6. This could provide a useful structure for a future action plan, if taken forward.

Figure 6: Categories

The specific recommendations are presented in Table 10 below.

Table 10: Specific recommendations

Category	Recommendation
Regulation and policy	• Develop a new legal protection and designation system (potentially tiered) for 'important' or heritage trees. • Review existing mechanisms to improve scope and effectiveness of current legal protection (e.g. TPOs, felling licensing). • Improve enforcement and penalties for tree-related offences. • Ensure 'important trees' are suitably considered in relevant policy areas. • Review the issues related to insurance felling and take steps to mitigate them.
Resources	• Develop financial support (including public and private funding) to support tree owners and managers to meet costs of protection and stewardship (e.g. to build a protection fence or undertake vital management operations).

Category	Recommendation
	• Ensure local authorities and other regulatory bodies have sufficient levels of resource to carry out their relevant duties e.g. management, enforcement. • Boost sector capacity and upskill existing professionals to assess, advise on and manage 'important trees'. • Explore and develop alternative funding models to support 'important trees' now and in the future e.g. green finance, financial bonds, carbon credits, corporate sponsorship etc.
Research and evidence	• Gather better data on 'important trees' including support for existing initiatives, such as the Ancient Tree Inventory, to better understand the population of 'important trees', so that protection and conservation efforts can be better targeted and monitored. • Additional research should be targeted at key knowledge gaps (but should not delay other action where there is already good evidence). • Gather and act on evidence on suitable management approaches by monitoring condition of trees over time. • Consider the strategy for protecting future 'important trees' and develop a plan for succession (i.e. develop a national programme to promote growing of the next generation of significant trees).
Awareness	• Appoint a 'Special Representative' for 'important trees' to raise awareness at political levels. • Implement a sector-wide publicity campaign that encourages positive interaction with 'important trees', whilst ensuring minimised physical impacts (e.g. avoiding damage to roots). • Support existing campaigns such as Tree of the Year and National Tree Week which encourage celebration of trees. • Enable some public or community input into the process of identifying, designating and caring for trees of high value. • Develop further research on how social and cultural values can be better recognised by various stakeholders, building on work already done by Forest Research.
Collaboration	• Continue the positive collaboration between the government, the NGOs and other sectors initiated by this research to ensure that their engagement delivers results.

Category	Recommendation
	• Facilitate international knowledge exchange to learn lessons for effective legal protection and designation systems.
Skills and capacity	• Develop guidance hub for tree owners and managers, containing expert advice and case studies, and signposting resources and professional bodies. • Incentivise uptake of existing training, such as VETcert. • Boost sector capacity through apprenticeships and training schemes that include a focus on ‘important trees’. • Work with training providers to identify opportunities to enhance training on managing ‘important trees’.

Project team

The project team comprises experienced subject specialists and leading social scientists, as described below.

The Tree Council

Jon Stokes is Director of Trees, Science & Research with over thirty years' experience of working with trees and their stakeholders at a national and local level. A leading expert in this field, he has authored key publications, such as 'The Heritage Trees of Britain and Northern Ireland', and chairs several national groups and committees.

Jessica Allan is a Science & Research Projects Manager with experience working on relevant research projects, including focussing on Trees and Woodland Strategies, tree health, and heritage trees. She has over ten years' experience working on multi-disciplinary projects in the environment sector, facilitating stakeholder engagement in policy, regulation and guidance development.

Charlotte Benham is Science & Research Projects Officer, with background in biodiversity conservation and monitoring, and experience delivering stakeholder workshops and coordinating research on heritage trees.

Tess Taylor is a freelance Project Manager specialising in the environmental and conservation sector. For the past four years, she has worked closely with The Tree Council on a variety of projects. She previously worked for The Royal Parks, focusing on conservation initiatives and volunteer programmes.

Forest Research

Dr Beth Brockett is a Senior Social Scientist. As a human geographer and interdisciplinary environmental specialist she has eight years' experience working in the public sector. She has also worked as an academic researcher, Parliamentary fellow, and a community development practitioner.

Dr Bianca Ambrose-Oji is Head of Social Sciences and has over 25 years' experience conducting action research projects and co-design processes in the forestry and trees outside woodland sector.

References

Act of April 16, 2004, on Nature Conservation (2004). Journal of Laws 2004 No. 92, item 880. Available at: https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20040920880

Ancient Tree Forum. Ancient, veteran and other definitions. Available online: https://www.ancienttreeforum.org.uk/ancient-trees/what-are-ancient-veteran-trees/

Ancient Tree Inventory (2024) What we record. Available online at: https://ati.woodlandtrust.org.uk/what-we-record-and-why/what-we-record/

Auckland Council (2024). What is a notable tree? *Auckland Council*. Available at: https://www.aucklandcouncil.govt.nz/building-and-consents/working-on-around-trees/Pages/what-is-notable-tree.aspx

BBC News (2024) Sycamore Gap: Man pleads not guilty to cutting down tree. Available at: https://www.bbc.co.uk/news/uk-england-tyne-69011665

Boyd, I.L., Freer-Smith, P.H., Gilligan, C.A., Godfray, H.C.J. (2013) The consequence of tree pests and diseases for ecosystem services. Science, 342, 6160.

Brockett, B., Clements, J., van der Wielen, G., Understanding the public value of trees outside woodlands: peri-urban and rural (ToWPUR). Online summary at: https://www.forestresearch.gov.uk/research/understanding-the-public-value-of-trees-outside-woodlands-peri-urban-and-rural-towpur/

Butler, J., Alex, K., Green, T. (2002) Decaying wood: an overview of its status and ecology in the United Kingdom and Continental Europe. USDA Forest Service General Technical Reports, 181:11–19.

Decree Law No. 53/2012 (2012). Diário da República n.º 172, Série I, 5 September 2012. Approves the legal regime for the classification of public interest tree groves (revokes Decreto-Lei n.º 28 468, de 15 de fevereiro de 1938). Available at: https://files.diariodarepublica.pt/1s/2012/09/17200/0512405126.pdf

Decree Law No. 10/2013. (2013). Norme per lo sviluppo degli spazi verdi urbani. Gazzetta Ufficiale della Repubblica Italiana, n. 27, 1 February 2013. Available at: https://www.gazzettaufficiale.it/eli/id/2013/02/01/13G00030/sg

Defra (2018) Tree Health Resilience Strategy. Available online at: https://www.gov.uk/government/publications/tree-health-resilience-strategy-2018.

Defra (2021) England Trees Action Plan 2021-2024. Available online at gov.uk.

Defra (2022a) Keepers of Time: ancient and native woodland and trees policy in England. Available online at gov.uk.

Defra (2022b). Outcome Indicator Framework for the 25 Year Environment Plan: 2022 Update. Available at: https://assets.publishing.service.gov.uk/media/62b1c7fae90e0765d96f92c0/25-year-environment-plan-2022-update.pdf Accessed: 14/08/2022

Defra (2023) Countryside Stewardship and Environmental Stewardship Data. Available online at: https://www.gov.uk/government/statistics/2023-countryside-stewardship-and-environmental-stewardship-data

Defra (2023a) Enabling a Natural Capital Approach: Guidance. Available online at: https://www.gov.uk/government/publications/enabling-a-natural-capital-approach-enca-guidance/enabling-a-natural-capital-approach-guidance

Defra (2024) Irreplaceable habitat: how biodiversity net gain applies to irreplaceable habitat. Available online at: https://www.gov.uk/guidance/irreplaceable-habitats

Department for Culture Media & Sport (2013) Scheduled Ancient Monuments. Available online at: https://assets.publishing.service.gov.uk/media/5a7c98eee5274a0bb7cb81d6/SM_policy_statement_10-2013__2_.pdf

Doick, K., Handley, P., Sales, K., Sparrow, K., Vaz Monteiro, M., Walker, H., Bursnell, M., Saraev, V.M., Valatin G. (2021) Valuing non-woodland trees. Research report to the Defra Network Partnership Future Proofing Plant Health. Available at: https://www.forestresearch.gov.uk/research/valuing-non-woodland-trees/

Dudley, N (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. WITH Stolton, S., P. Shadie and N. Dudley (2013). IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland: IUCN

European Commission Habitats Directive. (2024).European Commission. Available at: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en

Floresta.pt (2023) On the route of remarkable trees. Available at: https://florestas.pt/descobrir/na-rota-das-arvores-notaveis/

Hafferty, C. (2022) Embedding an evidence-led, best practice culture of engagement: learning from the evidence. Natural England Commissioned Report NECR448. https://publications.naturalengland.org.uk/publication/5365328451469312 Accessed: 14/08/24

Heale, M (2021). Notable Trees – Issues and options report. Tasman District Council. Available at: https://hdp-au-prod-app-tasman-shape-files.s3.ap-southeast-2.amazonaws.com/6516/6682/4067/Issues_and_Options_Paper_-_Notable_Trees.pdf

Historic England (2024) What are listed buildings? Online at: https://historicengland.org.uk/listing/what-is-designation/listed-buildings/

IPBES (2024) Ecosystem services. Webpage: https://www.ipbes.net/glossary-tag/ecosystem-service

Kosiorowska, J., & Szymczak, A. (2020). Protection of trees—Monuments of nature in selected European countries (Ochrona drzew—Pomników przyrody w wybranych krajach europejskich). ResearchGate. Available at: https://www.researchgate.net/publication/340401602_PROTECTION_OF_TREES_-MONUMENTS_OF_NATURE_IN_SELECTED_EUROPEAN_COUNTRIES_OCHRONA_DRZEW_-POMNIKOW_PRZYRODY_W_WYBRANYCH_KRAJACH_EUROPEJSKICH

Le Roux, D.S., Iken, K., Lindenmayer, D.B., Manning, A.D., Gibbons, P. (2014) The future of large old trees in urban landscapes, PLOS ONE, 9, 6, E99403.

Lopes, R., Trincão, P., & Reis, C. (2019). Portugal's trees of public interest: Their role in botany awareness. *Finisterra,* 54, 19-36. https://doi.org/10.18055/Finis14564

MHCLG (2014) Tree Preservation Orders and trees in conservation areas. Available online at: https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas#amenity-means

MHCLG (2023) National Planning Policy Framework. Available: https://www.gov.uk/government/publications/national-planning-policy-framework--2

Millennium Ecosystem Assessment (2003) Ecosystems and human wellbeing: A framework for assessment. Available online at: https://www.millenniumassessment.org/en/Framework.html

Ministry of Agricultural, Food and Forestry Policies. (2024). How to report a monumental tree. Ministry of Agricultural, Food and Forestry Policies. Available at: https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/12186

Ministry of Agricultural, Food and Forestry Policies. (2023). List of Monumental Trees. Ministry of Agricultural, Food and Forestry Policies. Available at: https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/11260

Moens, J (2021). See the beautiful, ecologically priceless trees Italy is protecting forever. National Geographic. Available at: https://www.nationalgeographic.com/environment/article/see-the-beautiful-ecologically-priceless-trees-italy-is-protecting-forever

Moffat, A.J., Ambrose-Oji, B., Clarke, T-K., O'Brien, L., Doick, K.J. (2024) Public attitudes to urban trees in Great Britain in the early 2020s. Urban Forestry and Urban Greening, 91, 128177.

Nolan, V., Gilbert, F., Reed, T., Reader, T. (2022) Distribution models calibrated with independent field data predict two million ancient and veteran trees in England. Ecological Applications, 32, 8, e2695.

Nolan, V., Reader, T., Gilbert, F., Atkinson, N. (2020) The Ancient Tree Inventory: a summary of the results of a 15 year citizen science project recording ancient, veteran and notable trees across the UK. Biodiversity and Conservation, 29: 3103-3129.

O'Brien, L., McConnachie, S., Hall, C., Forster, J., Dyke, A., Saraev, V., Jones, G. (2024) Exploring the social and cultural values of trees and woodlands in England: a new composite measure. People and Nature, 6, 3, 1334-1354.

Östberg, J., Trädförening, S. (2019) Economic Valuation methods and their use in valuing Veteran trees. VETcert. Available at: https://www.vetcert.eu/sites/default/files/2019-11/Economic%20Valuation%20Methods%20.pdf

Ranius, T., Johansson, P., Berg, N., Niklasson, M. (2008) The influence of tree age and microhabitat quality on the occurrence of crustose lichens associated with old oaks. Journal of Vegetation Science, 19: 653–662.

Sarajevs, V. (2011) Street tree valuation systems: research note, Forest Research. Available: https://cdn.forestresearch.gov.uk/2011/03/fcrn008.pdf

Scottish Government (2024) Participation handbook. Available online at: https://www.gov.scot/publications/participation-handbook/

Scottish Parliament (2023) Embedding Deliberative Democracy in a Participatory Parliament – SPICe Spotlight. Available online at: https://spice-spotlight.scot/2023/11/06/embedding-deliberative-democracy-in-a-participatory-parliament/

Seibold, S., Hagge, J., Müller, J., Gruppe, A., Brandl, R., Bässler, C., Thorn, S. (2018) Experiments with dead wood reveal the importance of dead branches in the canopy for saproxylic beetle conservation. Forest Ecology and Management, 409: 564–570.

Stagoll, K., Lindenmayer, D.B., Knight, E., Fischer, J., Manning, A.D. (2012) Large trees are keystone structures in urban parks. Conservation Letters, 5, 2, 115-122.

State Forests (2015). Nature conservation. State Forests National Forest Holding. Available at: https://www.lasy.gov.pl/en/our-work/nature-conservation/nature-conservation

The Wildlife Trusts (2024) Local Wildlife Sites. Available online at: https://www.wildlifetrusts.org/local-wildlife-sites

Tree Council NZ (2024). *Tree Council*. Available at: https://treecouncil.org.nz/

Tubby, K.V., Webber, J.F. (2010) Pests and diseases threatening urban trees under a changing climate. Forestry: An International Journal of Forest Research, 83, 4, 451–459.

United Nations (1998). Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, United Nations ECE/CEP/43, in Aarhus, Denmark, June 23–25.

Woodland Trust (2008) Trees and climate change: Ancient tree guide 5. Available at: https://www.woodlandtrust.org.uk/media/1834/ancient-trees-and-climate-change.pdf

Woodland Trust (2018) The benefits to people of trees outside woods. Available online at: https://www.woodlandtrust.org.uk/publications/2018/06/benefits-of-trees-outside-woods/.

Woodland Trust. (2023). Exploring Poland's natural monuments scheme: protecting old and special trees in law. Woodland Trust. Available at: https://ati.woodlandtrust.org.uk/blog/2023/exploring-polands-natural-monuments-scheme-protecting-old-and-special-trees-in-law/

Woodland Trust (2024) Protect our living legends. Online at: https://www.woodlandtrust.org.uk/support-us/join-to-protect-ancient-trees/ (Accessed 10th Sept 2024)

Woodland Trust (2024a) Tree of the Year 2024. Available online at: https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/tree-of-the-year/

YouGov (2023) Woodland Trust Survey Results. Available online at: https://docs.cdn.yougov.com/hqlv1wozx4/WoodlandTrust_AncientTrees_230515_GB_FULL_W.pdf

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Appendices

Appendix A – List of Organisations Engaged in the Research

Appendix B – Workshop 1 – Presentation Slides and Agenda

Appendix C – Workshop Structure and Outlines

Appendix D – Workshop 2 – Presentation Slides and Agenda

Appendix E – Case Studies

Appendix F – Existing Protections and Support in England

Appendix G – Mechanisms of Protections in other Countries

Appendix H – Full List of Emerging Options

Appendix I – Stakeholder feedback from Workshop 2

Appendix J – Prioritisation Exercise

Appendix K – Written Feedback from Stakeholders on Emerging Options

Appendix L – Additional Stakeholder Feedback and Meetings