Derbyshire County Council

Ash Dieback Action Plan (ADAP)

Version 1

December 2021

Document Control Sheet

Document Title	**Derbyshire County Council Ash Dieback Action Plan**
Version	**Version 2**
Author	**Ruth Baker**
Date	**November 2021**
Further copies from	**Ruth Baker / Website**

Executive Summary

This document provides an overarching plan to identify, communicate and address the risks of Ash Dieback Disease within the county of Derbyshire.

The disease is already widespread across the county and is expected to infect between 50% and 90% of the ash tree population over the next 10 to 20 years. There is no cure for the disease.

- Current advice recommends that land managers should already be identifying their ash tree population, assessing ash tree condition, monitoring for any change over time, and be planning mitigation for the expected loss of a large proportion of ash trees. Such works should look to minimise the loss of ash trees as a habitat used by other species and as an important tree in the landscape by, for example, undertaking compensatory tree planting with site appropriate species in advance of the expected loss of ash trees[1].
- Trees infected with the disease can rapidly decline and become prone to branch loss and failure and therefore become an elevated risk. Increased tree management including inspections and monitoring will be required.
- Accurate data on the number and distribution of ash trees in Derbyshire is currently limited and all data in this document is based on estimates. Surveys will be required to build a more accurate picture of ash trees to plan the Council's future response. Some work has been carried out by partner authorities and landowners which helps build a more accurate picture, most notably High Peak Borough Council, Peak District National Park Authority, and the National Trust.
- Nationally it is estimated the outbreak will cost up to £15 billion[2].
- Derbyshire as a county has a significant population of ash trees, which relates to its landscape character and geology. The cost of the outbreak to Derbyshire County Council ('the Council') is estimated to be between £22.5 Million and £40.5 Million depending on the lowest and highest mortality rate predictions.
- There is some good news in that research has revealed that the UK's ash population has greater genetic diversity than those in Continental Europe and a higher proportion of an allele (alternative forms of genes) which confers resilience to the disease, offering hope that more UK ash will survive. It is essential that resistant trees are identified and retained as they will be the building blocks of recovery of the species in Derbyshire.
- It is necessary to put the appropriate resources in place for the management of ash dieback (ADB) to manage the risk and liability, as well as potential reputational damage to the council. This action plan seeks to set out how the Council can address these issues.
- Trees have multiple benefits and provide vital ecosystem services such as storing carbon, mitigating pollution, flood attenuation and wildlife habitat. A recent survey from High Peak

[1] FC Operations Note 46a Date: 07.08.2019

[2] https://www.fera.co.uk/news/ash-dieback/

Borough Council estimates urban ash trees on average contribute around £16,000 per year of ecosystem services within the borough. These urban ash trees also have an amenity and capital asset value of around £23 million and the cost of replacement is conservatively estimated to be £500,000. If these figures are extrapolated county-wide, the capital asset value of ash trees in Derbyshire is around £184 million with replacement costs of £4 million. This doesn't account for the rural ash or ash trees growing within woodland and so the actual figure is likely to be far higher.

- There will be health and safely implications if the issue is not dealt with in a planned and properly resourced manner. A managed approach will help to limit long term costs both financial and environmental.
- The Council has a small in-house tree inspection team that will not have capacity to inspect and monitor all ash trees across the county within the optimum inspection window each year (June to September). Additional resources (2 tree inspectors, 1 technician) will be required for inspection, monitoring and delivery of tree work on the ground from 2022/3.
- As the Highway Authority, the Council also has responsibility to ensure trees on third party land that pose an unacceptable risk to the Highway are dealt with effectively. This will place additional pressures on business support staff and legal services through tracing landowners, serving notices and enforcement where landowners don't comply with tree safety notices.
- The Council has committed initial funding of £270,000 to deliver its ADB Action Plan, which will cover staff time, surveys, tree contractor operations, public liaison, and replacement planting. From 2022/3 an annual budget of £350,000 per annum will be required to fund additional staff resource, contract surveying and felling detailed in this plan.
- The nature of ash dieback disease makes it difficult to predict the speed and severity of infection over time. A flexible approach to resourcing and frequent review of the action plan will be required. To stay ahead of the development of the disease in Derbyshire the front loading of funding is required over the next 10 years.
- This report sets out an initial action plan of the work required to ensure that the ADB outbreak is dealt with effectively.

1. Ash Dieback Action Plan (ADAP) Aims and Objectives

The objectives of the Derbyshire ADAP are to:

1. To establish the baseline value of trees and woodland in Derbyshire.
2. Set out the background, nature and scale of ash dieback nationally and as it relates to Derbyshire.
3. Provide an overarching plan to identify, communicate and address the risks of ADB disease across Derbyshire.
4. Set out how the Council will identify and manage the risks created by the disease to public safety (from falling trees and branches), infrastructure (roads, rail and utilities) and the wider environment (landscape, ecology and ecosystem services).
5. Prioritise actions based on agreed timescales with risk level for public safety being a major priority in the short to medium term and environmental risks being a longer-term issue that will require long term planning and resourcing.
6. Identify the likely costs of responding to the disease and identify where extra resources will be needed.
7. Establish key actions that need to be delivered with clearly identified priorities, costs and key partners

Nationally there is uncertainty about the extent to which ADB will impact the ash population. The report is therefore based on two scenarios, a best-case scenario where around 50% of ash deaths occur within a 10-year period and a worst-case scenario where 90% of non-woodland ash are affected.

2. Benefits of trees and woodlands

Trees, woodlands and hedgerows are essential components of the natural and built environment. Trees play a large role in our ability as a species to adapt and mitigate the effects of climate change through carbon storage, flood alleviation and urban cooling. They are important in landscape character and place-making as well as being home to a wealth of wildlife and a source of pleasure and well-being for people. The Case for Trees – Forestry Commission 2010[3] and "Trees in the Townscape" (2012) produced by the Trees and Design Action Group (TDAG)[4] bring together a wealth of research, case studies and policy background in relation to the benefits of trees**.** The introduction of ADB Disease into the UK poses a serious threat to these accumulated benefits and will have significant long-term implications for the management of trees and woodlands in Derbyshire where ash is dominant.

[3] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718033/eng-casefortrees.pdf

[4] http://www.tdag.org.uk/trees-in-the-townscape.html

2.1 Ash trees and Ash Dieback Disease – Background

2.1.1 Ash dieback is a fungal disease thought to have originated in eastern Asia and imported into mainland Europe in the 1990s. The first recorded infection of European Ash (*Fraxinus excelsior*) was in Poland in 1992 it has spread rapidly across the continent with the first recorded case in the UK in 2012. Originally known as *Chalara fraxinea* the fungus is now called *Hymenoscyphus fraxineus*. This is a vascular wilt fungus that blocks the water transport vessels within the tree, firstly causing the leaves to die then lesions in the wood and bark leading to dieback of twigs, branches and ultimately the whole tree.

2.1.2 The disease is usually fatal for most young ash trees and can kill saplings within one growing season. Larger mature ash with the infection are thought to be more tolerant or decline at a slower rate of several years. The rate of decline in individual trees is highly variable and may be affected by pre-disposing factors such as genetic variation, concurrent diseases, pests and climate. Since 2018 there has been a marked increase in the rate of infection and decline that may be partly attributable to drought in 2018 followed by unusually hot dry springs and late frosts in 2019 and 2020. Further information on the life cycle of the fungus and symptoms of the disease are available at Forest Research[5].

2.1.3 The fungus is thought to have arrived in the UK on imported tree stock infected with the disease. The UK government imposed a ban on the import and movement of ash trees in 2012 in a bid to control the spread but it soon became clear that controlling the spread of airborne fungal spores was impossible and the focus now is on managing the impacts of disease for the long term. In Derbyshire the first recorded cases were in 2016 and it has since spread rapidly and is present in all parts of the county.

2.1.4 As this is a relatively new disease within the UK and mainland Europe very little is known about the long-term implications for ash as a species. As the UK was one of the later countries to see its ash population infected, much of what is known and predicted is learnt from other European countries. In Denmark for instance, studies have identified around 10% of the ash population show some modest resistance to the disease with 1-2% showing high resistance[6]. However, it is still uncertain whether the highly resistant trees will be progressively weakened over time.

2.1.5 Research has revealed that the UK's ash population has greater genetic diversity than those in Denmark and a higher proportion of an allele (alternative forms of genes) which confers resilience to the disease, offering hope that more of our ash will survive. The Living Ash Project[7], established by a partnership of organisations including Defra and Forest Research, is currently undertaking screening and selection trials to identify individual trees with high tolerance to the disease which may be cloned or bred for future restocking. Similarly, in the natural environment it is likely that we will begin to identify individual trees with high

[5] https://www.forestresearch.gov.uk/tools-and-resources/fthr/pest-and-disease-resources/ash-dieback-hymenoscyphus-fraxineus/

[6] Jo Clark, Living Ash Project

[7] https://livingashproject.org.uk/

tolerance including some that exhibit mild symptoms then recover. Current advice is therefore not to fell ash trees that appear healthy or where they are only exhibiting minor dieback. These trees may be the building blocks to the recovery of the ash population.

2.1.6 The disease affects ash trees of all ages and forms including coppice and pollards. Young trees and coppice re-growth is particularly vulnerable as the small diameter of new stems is infected too quickly for the tree to mount a defence response. However, many healthy, otherwise unstressed mature trees can apparently survive for many years.

2.1.7 Experience from south east England and Devon suggest the infection rate for ash in woodlands follows a typical J-shaped curve with up to 90% of ash showing symptoms after 8 to 10 years. In non-woodland situations the situation is more uncertain and is dependent on local factors including density of ash, topography, pre-existing stresses and the presence of other pathogens that can exploit a tree weakened by ADB such as Armillaria (Honey fungus).

2.1.8 In 2012 Defra produced a Chalara Management Plan which set out a number of high-level actions necessary to respond to the disease. This plan focussed mainly on tackling ADB in woodland settings but helped provide an early framework of necessary actions to guide future work and action plans.

2.1.9 In 2015 The Tree Council wrote a report for Defra on responding to the disease in non-woodland situations. The report proposed an action plan for central government based on the assumption that ash dieback in non-woodland trees will pose a serious national issue. This document and the Defra Chalara Management Plan have been used to guide and structure this Derbyshire ADB Action Plan.

2.2 Current General Management Advice

2.2.1 Advice produced by the Forestry Commission on how to manage infected woodlands and urban/peri-urban areas (but not rural non-woodland features such as hedges) can be found in a guidance document produced by the Forestry Commission[8].
This doesn't include ash trees in rural settings.

2.2.2 There are two key issues; firstly, when to fell trees and secondly what to replace them with. The consensus is that pre-emptive felling should be exceptional and that infected trees should be felled only once they are clearly dying or pose an imminent danger. Felling Licences issued by the Forestry Commission will be required in most situations where large volumes of trees are being removed. In addition, permission may be required if trees are under other statutory protection such as Tree Preservation Orders, Conservation Areas or in Sites of Special Scientific Interest. This advice is given mainly on the basis that:

a) We must take every opportunity to identify and retain those trees that are highly resilient to the disease and

b) The decaying wood within dead and dying trees is a valuable wildlife habitat.

[8] https://www.forestresearch.gov.uk/tools-and-resources/pest-and-disease-resources/chalara-ash-dieback-hymenoscyphus-fraxineus/chalara-manual-1-introduction-and-contents/

There will be exceptions to this advice where for reasons of economics and safety, it may be necessary to fell early. Occasionally it may also be appropriate to pollard trees rather than fell to encourage deadwood habitat.

2.2.3 The choice of tree species to plant as replacements for ash is complex. No one native tree or several species can fully replicate the ecological traits, biodiversity or commercial attributes of ash. Instead, replacement planting should focus on a diverse range of species, the exact mix being dependent on site-specific characteristics informed by climate change resilience and ecosystem service delivery. Further information and advice for mitigating the loss of ash and species selection is available from Forest Research[9] and Natural England[10].

2.2.4 It is our intention to follow all the above key advice presented by the various Government departments, and to insert this advice into the ADB Action Plan for Derbyshire.

2.3 Ash trees in Derbyshire

2.3.1 Estimates for the number of ash trees in Derbyshire have been made based on a number of sources including a Tree Council study published in 2015 on behalf of Defra[11], the Forestry Commission National Forest Inventory (NFI) [12] and Derbyshire Lowland Biodiversity Action Plan 2011 - 2020[13]. NFI data from 2002 estimates Derbyshire has 19,500 hectares of woodland, 7.2% total cover. The Tree Council estimate that on average there are 444 ash trees per hectare in woodlands <0.5 hectares and wide linear features. This equates to approximately 8.6 million ash trees within woodlands or wide linear features in Derbyshire. This figure doesn't include individual trees in hedgerows, fields or urban settings therefore the total number of ash trees in Derbyshire is estimated to be in the region of 9 million.

2.3.2 In Derbyshire as a whole, ash is the second most common tree after oak but in limestone areas of the county they are the dominant species. Ash is the dominant tree in the woodlands of the limestone dales, where it may comprise up to 99% of the tree cover. These limestone dales of Derbyshire and the Peak District contain the largest areas of ravine woodlands in Great Britain and are the best examples of this habitat in the UK and one of the most important areas in Europe for ash-dominated landscapes and habitats. These dales support 21% of the UK's ravine woodland and are protected by a Special Area of Conservation (SAC). The SAC covers almost 900 hectares of ravine woodland including Dovedale, Monsal Dale, Lathkill Dale, Via Gellia Woods and Matlock Dale.

---

[9] https://www.forestresearch.gov.uk/documents/6981/FCRN029.pdf

[10] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/811166/NE_FC_Ash_dieback_SSSI_management_advice_V2_April_19.pdf

[11] https://treecouncil.org.uk/wp-content/uploads/2019/12/Appendix-2-Ash-Data-2.pdf

[12] https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/

[13] https://www.derbyshire.gov.uk/site-elements/documents/pdf/environment/conservation/ecology/lowland-derbyshire-biodiversity-action-plan/lowland-derbyshire-biodiversity-action-plan-lbap-2011-2020.pdf

2.3.3 The Council has a woodland estate of approximately 1,000 hectares managed by its Countryside Service. Other land within the Council portfolio or maintained by the Council includes 3386 miles of highway, 3,000 miles public rights of way, 220 miles of greenways, 120 wider countryside sites, 4 country parks, 20 miles of canal and other corporate land such schools, care homes, recycling centres, and reclamation land. Many of these will have an element of tree cover that is currently unknown. The Department for Corporate Services and Transformation has tree survey data for schools with a total number of 1,976 individual trees.

2.3.4 From the figures above a reasonable estimate of ash trees on Council land would be in the region of 1 million trees of all sizes and age. Based on national inventory data around 55% of these will be within the semi-mature to mature age classes. A conservative estimate of 50,000 of these trees will be within frequently occupied areas such as roads, public parks and schools.

2.3.5 Figures for ash trees on private land that have health and safety implications for the Council are not available. They include trees adjacent to the highway network including rights of way and high occupancy locations. A broad estimate of the number of privately-owned ash trees in these locations would be between 250,000 to 500,000. This figure will be updated subject to survey data and will be identified on GIS mapping.

2.3.6 The majority of Council land is accessible to the public, council employees and other visitors. Many council sites also comprise of buildings and associated infrastructure, vital to the council's service delivery. It is therefore essential to adopt a risk-based approach to the management of ADB at these locations.

2.3.7 The priority for ADB management will initially be to assess the entire County estate to identify those areas most frequently occupied and those with mature tree cover and assign zones according to the level of risk. The level of risk will inform inspection priorities and schedules. Tree risk assessment and record management will be delivered through the Council's asset management system. This is a massive task that cannot be delivered without cross-departmental partnership working.

2.3.8 Ongoing monitoring of ADB will be through a combination of "active" and "passive" inspection across the county. "Active" inspections will be carried out by qualified arboriculturists on a schedule according to the level of risk. "Passive" inspections will be undertaken by trained council staff, volunteers and partner authorities as part of their routine tasks in and around Derbyshire and will also include reports from other sources such as members of the public. Reports of any trees that appear to be in severe decline will be captured using the council's "report it" or asset management system. A qualified tree inspector will then visit and escalate works where the level of risk is unacceptable.

2.3.9 The Council will need to identify landowners where trees are identified on private land. Although trees on private land are the responsibility of the landowner, the Council, as Highway Authority may service notice on a landowner or occupier to remove a dangerous tree under Section 154 of the Highway Act 1980. It is important in these scenarios to have a robust and defensible escalation process to ensure dangerous third-party trees are dealt

with in a timely manner. As part of the Action Plan the council will develop and agree an escalation protocol. This work is in progress and will be subject to periodic review.

3. Value of trees in Derbyshire

Putting a financial value on all of the benefits trees provide to society can be challenging and depends on the data available. The Council does not currently have tree inventory data for the majority of its tree stock, with the exception of schools. The most complete tree valuation study in Derbyshire to date has been undertaken by High Peak Borough Council[14]. Using established methodologies the Borough Council has been able to calculate the Capital Asset Value of Amenity Trees (CAVAT)[15] which is based on trunk formula to calculate replacement costs and Treezilla[16] calculations to calculate the contribution towards ecosystem service values based on tree survey data. This has been further refined to give values for each species.

For ash trees, the headline figures for High Peak Borough as a whole are detailed in the table below.

Table 1: Value of ash trees in HPBC area

	HPBC total area
Estimated no trees	55500
Estimated value of lost Ecosystem-services per annum (Flood/pollution/carbon capture)	£0.175 Million
Value of stored carbon	£2.73 Million
Capital asset value (CAVAT)	£265 Million
Total value	£267.9 Million

These figures provide a valuable insight into the societal loss that ADB will cause to the county of Derbyshire. If these figures were to be extrapolated for the other 7 district and borough councils in Derbyshire the value would be £1 to £2 Billion. These figures don't include any economic impacts for commercial forestry or tourism.

3.1 Biodiversity value of ash in Derbyshire

3.1.1 Across the UK there are 955 species known to be associated with ash trees. Of these 62 species are highly associated with the tree and 44 are entirely dependent on it (known as

[14] https://www.highpeak.gov.uk/media/4990/Tree-Strategy---Good-Practice-Guide-5---Ash-dieback-Action-Plan-April-2020/pdf/Tree_Strategy_-_Good_Practice_Guide_5_-_Ash_dieback_Action_Plan_April__2020.pdf?m=1592402671563

[15] https://www.ltoa.org.uk/documents-1/capital-asset-value-for-amenity-trees-cavat

[16] https://treezilla.org/

obligate species)[17]. The species that are highly dependent or obligate on ash have already been accorded threatened status and are at particular risk from ADB. Assuming high levels of mortality, it is probable that some species will be at risk of extinction or at best they will suffer large population decline. It is therefore essential that where we can retain ash trees, we really should.

3.1.2 Loss of ash is also likely to have other, indirect consequences on biodiversity. The tree is especially notable for the rapid decomposition rate of its leaves with a high rate of nutrient recycling compared to other tree species. The ash leaves are alkaline, and this has a direct effect on soil pH. The loss of large woodland stands of ash is likely to impact on the lower plant communities beneath. These are already some of our rarest woodland species including Herb Paris, Daphne mezereum and Green Hellebore.

3.1.3 In the rare and vulnerable ash woodlands of the dales, Natural England are working to mitigate the effects of ADB with their LIFE Ravine Woodlands Project by selecting a combination of alternative tree species to replicate, as far as possible the attributes of ash.

4 Potential impact of Ash Dieback on Derbyshire County Council

4.1 Health and Safety

4.1.1 When trees become infected as the disease advances the tree can become brittle and prone to limb failure. With younger trees the progress of the disease can be rapid and lead to entire tree death within 1 or 2 years. With older trees decline may be slower older but the safety of the trees will need to be managed.

4.1.2 A careful monitoring programme needs to be established to ensure that the locations of trees are identified, and appropriate risk assessment and monitoring program is undertaken in accordance with the tree risk management strategy.

4.1.3 Failure to have a properly considered and resourced monitoring and tree management programme will lead to increased potential for liability for claims from damage and injury caused by trees failing which could lead to reputational damage.

4.1.4 This will also extend to some degree to trees on private land. The council has certain duties with regards to dangerous trees on private land under The Highways Act 1980 and Town and Country Planning Act for trees protected by Tree Preservation Orders. Failure to deal with these issues effectively risks transferring the liability for these private trees to the council as well.

4.1.5 Provision for schools needs to be factored into this programme through raising awareness of the disease, monitoring ash trees within a school sites and provision of specific management advice when requested.

[17] Mitchell et al. 2014. Ash dieback in the UK: A review of the ecological and conservation implications and potential management options. Biological Conservation 175, 95–109.

4.2 Financial Implications

4.2.1 There will be additional significant costs of tree work with an increase in felling being undertaken as well as remedial pruning. Overall cost of tree work contracts is likely to significantly increase due to the need for specialist equipment requirements for working on diseased ash and a limited pool of suitably skilled and equipped staff. This may also impact on all tree works contracted by the council, not just to ash trees and an uplift in costs is possible.

4.2.2 Some highway trees within urban areas are managed on behalf of the Highway Authority by District or Borough Councils under an agency agreement. This arrangement has not been reviewed for 10 years. Therefore, to acknowledge a changing environment that trees are facing an assessment is required. It is anticipated that where these agreements include the management of ash trees, this will require an increase in their annual payments for both the costs of remedial work and replacement planting. There is a need to share tree asset information between the agencies and the Council to identify likely cost increases to ensure the trees under their care are monitored and managed effectively.

4.2.3 For example, High Peak Borough Council maintain 96 Council highway ash trees across the borough. All these trees are in urban areas with multiple and frequent occupancies. It's difficult to estimate the "average" cost of felling a tree as it's dependent on multiple factors such as size, condition, location etc. but a conservative estimate would be £600 per tree. Felled trees will also need replacing. An estimated average cost for new planting and maintenance would be £120 per tree using DEFRA guidance. For High Peak Borough, therefore the public open space estimated increased cost of managing highway ash trees could be £33,800 (if 50% ash needed removing) and £60,200 (if 90% ash need removing).

4.2.4 The increased costs for the Districts and Borough councils of managing highway ash trees will not be spread evenly over time however the majority of costs are anticipated to come in the first 10 years. A flexible approach to financing additional work will be required to ensure they can respond to the risk swiftly and effectively.

4.2.5 In 2.3.4 above it's estimated that the Council has 50,000 ash trees in high risk locations. Based on the average costs above, over the next 10 to 15 years the Council will require additional budget of £15Million (for 50% losses) to £27Million (if 90% require felling) and £7.5Million (to replace 50% losses) to £13.5Million (to replace 90% losses). Combining these figures, the total projected cost to the Council for ADB is estimated to be between £22.5 Million (50%) and £40.5 Million (90%).

4.2.6 These costs do not include additional staffing costs that will be required to respond to ADB related work streams. This will be covered in section 6.3 below.

4.3 Environmental Impacts

4.3.1 The loss of ash trees will potentially lead to the loss or significant change to important habitats and potentially lead to local extinctions of rare species reliant on ash.

4.3.2 The Council owns 1000 ha of woodland, equating to 5% of the county's total woodland cover. The loss of the second most abundant species will impact all ecosystem outputs the Council contributes towards climate adaptation and natural capital with total costs of several million pounds. It is therefore essential that woodlands are restocked with suitable replacement species to mitigate these losses.

4.3.3 Where possible restocking should aim to deliver multiple environmental benefits and create more species diverse woodland that a more resilient to future pests, diseases and climate change.

4.4 Reputational Damage

There is potential for the Council's reputation to be harmed if there is negative press with regards to the handling of ADB. For example, if there is an accident where an ash tree fails and causes injury or damage due to the disease.

4.4.1 The Council is often the first port of call for information on issues such as ADB. It is important to have a clear position statement, standard advice and an action plan to show due consideration has been given the potential risk from this disease.

5 Taking Action

5.1 Introduction

5.1.1 This action plan sets out to identify and manage the risks from the disease to the environment (landscape and ecology), to public safety (from falling trees) and to infrastructure networks (roads and utilities). The plan also considers the likely costs of responding to the disease and identifies where extra resources are required.

5.1.2 The approach taken to identify necessary actions is to split them between those that are a priority because they pose a short-term major risk, as to public safety, and those that pose a longer-term risk, as to the environment. Other actions are identified to address regulation, training, business and forward planning needs.

5.2 Scenarios

5.2.1 For non-woodland trees, the approach considers both a worst case scenario, where over 90% of ash trees die or are clearly dying within a 5-15 years period and a less severe scenario where about 50% of non-woodland ash are affected within the same period to the extent that they are likely to at least shed large limbs. The current majority view is that the second scenario is more likely but there is a high variability at a local level. In woodlands, particularly where the dominant species is ash, current evidence suggests that over 90% will die or become severely affected.

5.2.2 Whether risks are short or long term, and whether the worst-case scenario or one that is less severe is experienced, a proactive, coordinated response is required.

6. The Delivery Plan

6.1 Introduction

6.1.1 Section 7 identifies the key actions required to address each of seven major issues and risk areas. Risks to public safety and communication networks are considered to be short-term risks (i.e. likely to be faced within a decade) and risks to the environment are longer-term risks.

6.1.2 For each action, an assessment is made of its priority relative to others and its likely costs (split broadly into high, medium and low).

6.1.3 This action plan concentrates on what is required at a county level and does not include actions required at a national level such as a breeding programme for disease resistant ash or preventing the importation of new pests and diseases through national biosecurity policy.

6.1.4 It is envisioned that further, more detailed, county plans will be necessary to address specific issues.

6.1.5 The impact of ADB on the county's ash trees will be a dynamic situation that will change over time. This action plan will therefore be revised and updated annually.

6.2 Staff Resources – Existing

6.2.1 The Council currently has 4.5 tree inspectors split across two divisions, in addition the Place Department also has a Countryside Project Officer (Tree Preservation) to deliver the council's statutory duties relating to protected trees within the planning system and a Countryside Project Officer (Woodlands) who works at a strategic level for planning related enquiries, tree risk management including delivery of the Ash Dieback Action Plan, highway tree care, management of the county's woodland estate and policy development.

6.2.2 The Council has the benefit of a small in-house tree contracting team split geographically into a north and south team to deliver tree works across the entire authority including schools. The in-house team deliver programmed works and an emergency call out service where there is an immediate risk to public safety. The team does not currently have capacity to deliver all works in-house and so co-ordinates a framework of private contractors in the delivery of planned and emergency tree work operations.

6.2.3 Officers work closely with private contractors to deliver tree works including ADB-related operations in accordance with current industry guidelines.

6.2.4 Other staff with transferrable skills that can be used to deliver some ADB actions include Countryside Service rangers and wardens who can assist in the identification/monitoring of ADB on sites and felling some of the smaller trees that require removal. In addition, highway inspectors could also assist with ADB monitoring on highways as part of their general inspection duties. Training will be required in the recognition and grading of the disease and a reporting system established.

6.2.5 Communicating information to the public will involve some training of customer services and business service staff. The council's website will also be an essential tool for wider dissemination of information on the significance of ADB, how to spot it and when to take action.

6.3 Staff Resources - Required

6.3.1 It has been recognised and accepted by the Council that resources for ongoing monitoring and tree safety works are required straight away, and for as long as the disease progresses in the years ahead. In addition, diseased trees on private land that present an unacceptable risk will also need to be addressed where they are within the Council's remit including trees adjacent to the highway, within falling distance of Council land or property or subject to County Tree Preservation Orders.

6.3.2 So far, the cost of the Council's response to ADB is based on estimates. To provide more accurate information and to assist with prioritising works, a central recording system is required. Tree survey software is required to record the location of all ash trees, ash with confirmed ADB, severity of infection and risk assessment.

6.3.3 In Place the priority is inspecting trees on and adjacent to highways, high use countryside sites and sites close to property. With the anticipated increase in workload that ADB will bring in terms of inspection, report generation and ordering works, 2 inspectors will not be sufficient to cover all high-risk zones annually. Additional inspectors or novel survey systems will be required to ensure monitoring and actions are completed within the required frequency. In addition to tree inspection, there will be increased pressure on Tree Preservation Order (TPO) services due to increased enquiries from members of the public who have ash trees covered by TPOs – the County has 2,900 TPO designations. There is an immediate, additional requirement for 2 Tree Inspectors to ensure adequate annual inspection of high-risk zones. Additional support in respect of TPOs will be kept under review.

6.3.4 Additional business and legal support will also be required to assist with an increase in land registry searches, issuing of letters/notices and enforcement action. Although trees on private land are the responsibility of the landowner, the Council, as Highway Authority may service notice on a landowner or occupier to remove a dangerous tree under Section 154 of the Highway Act 1980. It is important in these scenarios to have a robust and defensible escalation process to ensure dangerous third-party trees are dealt with in a timely manner. As part of the Action Plan the Council will develop and agree an escalation protocol. This work is in progress and will be subject to periodic review.

6.3.5 To ensure officers have effective support, business service staff need to be conversant with legislation and internal processes to respond to third party tree issues effectively. A core team of staff trained to assist with all tree-related issues would enable the Council to deliver an efficient response to ADB. There is an immediate need for an ADB Technician to support

the existing Project Officer and tree inspectors. Existing Business Support staff will also require training in land registry searches and relevant highway and tree legislation.

6.3.6 Managing the council's woodland estate will also require additional staff and financial resources. As the second most common species within woodlands, the loss of ash as a high canopy tree will have a significant impact on the council's woodland assets in terms of biodiversity, carbon storage and sequestration as well as market value of timber. Forest planning for the county estate will be required to respond to this loss to ensure adequate mitigation and no net loss to ecosystem services. Grant funding for woodland management is available through the Forestry Commission but this requires staff time to plan, program and implement delivery.

6.3.7 The impact on the landscape of Derbyshire will have lasting effects and will require strategic planning within the Council as well as working with other agencies and landowners to plant suitable replacement trees species. ADB will have a direct effect on corporate climate change strategy, net zero targets and nature recovery strategies. Investment to create a future treescape that is a more diverse and resilient tree population is an essential component of this plan. Government funding is available to assist with this work but the capacity of existing staff to plan, secure funding, deliver schemes and monitor outcomes is limited. An ADB Recovery Officer will be required to focus on Council woodland estate as detailed above in 6.3.6 and to support and encourage private landowners to replant, this would also benefit the wider environmental targets of the authority. This post is not required immediately as it will depend on the speed of progression of ADB across the County. The requirement should be reconsidered annually.

6.3.8 The additional staff identified above to support the survey programme are 2 tree inspectors and 1 technician.

6.3.7 An indicative annual budget for the next 5 years is estimated to be £350,000 per annum. This is based on the cost of the existing project officer and additional staffing detailed above, vehicles contract survey costs and funds for felling identified high risk trees on Council land or where necessary private land.

7 Initial Action Plan

Section 1: Plan delivery, communication and strategic planning							
	Topic	**Key people/bodies affected**	**Actions**	**Priority**	**Costs**	**Suggested Lead**	**Timescale**
1.1	Action plan delivery	DCC	Establish a steering group to coordinate and promote plan and monitor it. (Countryside, Highways and Corporate Tree Team).	High	Low	Woodland Officer	Feb 2021
1.2	Communication	All sectors including public sector land managers, schools, contractors, general public, farmers and other private land managers	Develop and deliver a communications plan to provide information and guidance to landowners and managers, schools, tree professionals, Parish Councils, the general public and media	High	Low	Woodlands Officer/Comms Team	May 2022
1.3	Increase surveying capacity	DCC	Seek approval to employ additional tree inspectors in-house or buy in as contract surveyors to meet the requirement for active annual inspection in high risk zones	High	Medium	Head of Countryside Service/	Jan/Feb 2022
1.4	Knowledge exchange	DCC, PDNP and all district/boroughs	Liaise with wider forums – information sharing	High	Low	Woodland Officer	Jan 2021/ongoing
1.5	Strategic planning	DCC Place Woodland Officer, Countryside managers, Highways Network Planning, Climate change, Conservation & Heritage Regeneration CCP – Estates, Corporate landlord	Ensure that emerging policies, strategies and management plans take into account the implications of ADB and other serious pests and diseases. Carry out an audit of existing highway and other policies and processes that may need to be reviewed in light of ADB e.g. tree planting policy Agree and sign off policy changes	Medium	Low	Woodland Officer / Highways	2021 / ongoing

Low <£10K / Medium £10K - £100K / High > £100K

Section 1: Plan delivery, communication and strategic planning (continued)							
	Topic	**Key people/bodies affected**	**Actions**	**Priority**	**Costs**	**Suggested Lead**	**Timescale**
1.6	Financial planning	Finance	Secure funds for dealing with ADB and ensure costs are coded to specific ADB budget code	High	Medium	Head of Countryside Service & Woodland Officer	2020/21/ ongoing
1.7	Training	DCC - Countryside, highways, contractors, District/Borough councils	Train wider staff in the recognition and stages of ADB through passive inspection incorporated into their normal duties and develop a reporting and escalation process Explore opportunities to engage volunteers and the public in reporting ADB	Medium	Low	Woodland Officer	2020/ ongoing
1.8	Reporting system	DCC Countryside, Highways, Asset Management, Corporate tree team, contractors, members of the public, Districts/Boroughs	Develop an online ADB reporting system that can be used by staff and external bodies/public to report trees on or within striking distance of Council land. This should be integrated into the Council's asset management and CRM systems	High	Low	Woodlands Officer/Asset Management Team/IT Services	March 2022
1.9	Policy	DCC Countryside/Highways/ Conservation Design & Heritage	Incorporate ADB into Corporate Tree Management Strategy	High	Low	Woodlands Officer	June 2022
1.10	Plan review	DCC	Review the plan annually and amend in light of additional data and information. Monitor national advice and information.	High	Low	Woodland Officer	Oct 2022/ ongoing

Low <£10K / Medium £10K - £100K / High > £100K

Section 2: Actions to address short term risks to public safety and communications networks							
	Topic	Key **people/bodies affected**	**Actions**	**Priority**	**Costs**	**Suggested Lead**	**Time-scales**
2.1	Establish an ash dieback survey/inspection regime	DCC Districts Borough councils	Identify trees on sites managed by DCC, including highways, to prioritise in accordance with the Corporate Tree Management Strategy	High	Medium	Woodland Officer/ Tree inspectors/ District/Borough highway agencies.	June 2022
2.2	Establish and deliver a re-inspection and monitoring program	DCC District/Borough councils	Ensure frequency of monitoring/inspection in all areas is proportionate to the level of risk	High	Medium	Woodland Officer/ Tree inspectors/ District/Borough highway agencies	June 2022/ ongoing
2.3	Establish a method of assessing the stage disease and risk rating system	DCC District/Borough councils	Ensure effective, prioritised and proportionate response based on level of risk	High	Low	Woodland Officer/ Tree inspectors/ District/Borough highway agencies	March 2022
2.4	Undertake works required resulting from inspections	DCC District/ Borough Third party land owners	The monitoring and survey work will identify trees which require pruning or felling. These works need to be undertaken in accordance with a prioritised scheme of work	High	High	Woodland Officer/ Tree Inspector	March 2022
2.5	Ash trees on private land that pose a risk to the highway or other public property	DCC Districts	DCC have powers to deal with private trees that pose a high/unacceptable risk to the highway. Review existing protocol to ensure work is expedited within agreed timescales. This will include provision for serving notices, enforcement and cost recovery	High	Medium	Woodland Officer / Legal / Highways	March 2022

Section 2: Actions to address short term risks to public safety and communications networks continued							
	Topic	**Key people/bodies affected**	**Actions**	**Priority**	**Costs**	**Suggested Lead**	**Time-scales**
2.6	Ash trees on private land that pose a risk to the highway or other public property	DCC Districts	DCC to define a reporting system for other agencies who identify ash trees of concern Trees on private land that pose a high risk to DCC publicly accessible land may require intervention from District/Borough Councils through their powers under the Miscellaneous Provisions Act Districts to define their own reporting mechanism and set out escalation procedures	High	Medium	Woodland Officer / Legal / Highways District/Borough Councils	May 2022 May 2022
2.7	Ash on highway managed by agencies	DCC Districts	DCC to review and update agency agreements and provide additional resources where necessary	High	Medium	Highways/ Legal/ Woodland Officer	Jan 2023
2.8	Protected trees	DCC	Trees protected by a County TPO which become infected with the disease will lead to an increase in applications/notifications for work and advice	High	Low	Woodland Officer / TPO Officer	Ongoing
2.9	Potential for unqualified and uninsured rogue traders to take advantage of the ABD situation	DCC Districts Police Natural England	This could lead to potentially high risk/poor quality tree works, unauthorised works to protected trees and destruction of protected species (particularly nesting birds and bats) Requires monitoring Educating the public on how to choose a good tree surgeon will form part on the communication strategy (see 1.2)	Medium	Low	Woodland Officer/ Trading Standards/ HSE/ Comms Team	May 2022

Section 3 Actions to address longer term risks to the environment							
	Topic	**Key people/bodies affected**	**Actions**	**Priority**	**Costs**	**Suggested Lead**	**Timescale**
3.1	Ecological / Biodiversity Impacts to designated sites including ancient woodland	DCC Districts/Boroughs DWT PDNP Natural England	Liaise with owners/managers of designated sites to assess impact and assist in the development of mitigation strategies Signpost owners/managers to grant funding for ABD mitigation Raise awareness of legal requirements for work on SSSI/SAC sites and affecting protected species	Medium	Low	Woodland Officer County Ecologist DWT	2020/Ongoing
3.2	Impact on ancient/veteran trees and trees with high heritage value	DCC Districts Boroughs DWT Ancient Tree Forum Natural England Forestry Commission	Identify ancient and veteran ash trees and ancient ash woods Encourage people to record notable trees with DWT/Woodland Trust Tree Hunt/Ancient Tree Forum Encourage sensitive management and monitoring Signpost to VetCert qualified arboriculturists and funding specific to ancient/veteran tree management	Medium	Low	Woodland Officer/ DWT	2020/Ongoing
3.3	Promote best practice to enhance biodiversity	DCC Districts/Boroughs FC Contractors Public	Promote the healthy, sustainable management of trees, hedges, woodlands to increase resilience from pests, disease and climate change threats through comms strategy (see 1.2)	Medium	Low	Woodland Officer / Comms Team	May 2022/ongoing
3.4	Landscape restoration – Planting guidance	DCC Districts Boroughs PDNP DWT Developers Landowners	Provide landscape character and habitat advice on suitable replacement tree species Produce an easy guide for establishing new trees in the landscape through comms strategy (see 1.2)	Medium	Low	Woodland Officer / Landscape Officer/Comms Team	May 2022/ ongoing

Section 3 Actions to address longer term risks to the environment continued							
	Topic	**Key people/bodies affected**	**Actions**	**Priority**	**Costs**	**Suggested Lead**	**Timescale**
3.5	Landscape restoration	DCC Districts Boroughs PDNP DWT FC Developers Landowners Community groups	Promote schemes and grant funded tree planting where available Develop and deliver schemes to encourage land managers and owners to plant trees or encourage natural regeneration Encourage the use appropriate tree species according to location	Medium	Low	Woodland Officer Landscape Officer County Ecologist	April 2021/ongoing
3.6	Biosecurity	DCC Contractors/ Suppliers	Develop a tree purchasing standard to ensure biosecurity and provenance in trees purchased by DCC. Promote industry standards such as the “Plant Heathy” scheme to reduce the risk of importing new pests/diseases Ensure best practice biosecurity procedures are in place with contractors and DCC workforce	Medium,	Low	Woodland Officer Property Tree Team Countryside Service Procurement	Jan 2022
3.7	Explore opportunities for the sale/use of ash timber products	DCC	Explore outlets for ash wood products including arisings Seek alternative uses to biomass/woodfuel/firewood to reduce the rate of loss for stored carbon Seek opportunities to utilise diseased ash trees in the creation of new deadwood habitats.	Medium	Low	Woodland Officer	June 2022

Low <£10K / Medium £10K - £100K / High > £100K

Further Information

Fera – Ash dieback	https://www.fera.co.uk/news/ash-dieback/
Forestry Research Ash die back	https://www.forestresearch.gov.uk/tools-and-resources/pest-and-disease-resources/chalara-ash-dieback-hymenoscyphus-fraxineus/chalara-manual-1-introduction-and-contents/
Forestry Commission	http://www.forestry.gov.uk/ashdieback
Forestry Commission NFI preliminary estimates of quantities of broadleaves species in British woodlands with special focus on ash	https://treecouncil.org.uk/wp-content/uploads/2019/12/Forestry_NFI-preliminary-estimates-of-quantities-of-broadleaved-species-in-British-woodlands-with-special-focus-on-ash-2.pdf
Forestry Commission - A case for trees	https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718033/eng-casefortrees.pdf
HPBC Good Practice Guide 5 Ash Dieback Action Plan	https://www.highpeak.gov.uk/media/4990/Tree-Strategy---Good-Practice-Guide-5---Ash-dieback-Action-Plan-April-2020/pdf/Tree_Strategy_-_Good_Practice_Guide_5_-_Ash_dieback_Action_Plan_April__2020.pdf?m=1592402671563
JNCC The Distribution of Important Ash in Great Britain	https://data.jncc.gov.uk/data/d94e475a-f1ea-4034-9eee-bc863c9888d7/important-ash.pdf
JNCC The potential ecological impact of ash dieback in the UK	https://hub.jncc.gov.uk/assets/1352bab5-3914-4a42-bb8a-a0a1e2b15f14
JNCC A summary of the impacts of ash dieback on UK biodiversity, including potential for long-term monitoring and further research on management scenarios	https://hub.jncc.gov.uk/assets/1352bab5-3914-4a42-bb8a-a0a1e2b15f14

JNCC Combating ash dieback – mitigating the impact of invasive diseases on biodiversity	https://jncc.gov.uk/news/combating-ash-dieback-mitigating-the-impact-of-invasive-diseases-on-biodiversity/
Living Ash Project Map of distribution of ash die back in GB	https://livingashproject.org.uk/
Suffolk County Council “Chalara – On the front line	http://rfs.org.uk/learning/external-advice-and-guidance/tree-diseases/
Peak District National Park and Ash dieback TDAG trees in the Townscape Trees and Design Action Group (TDAG) trees in the townsacpe	https://www.peakdistrict.gov.uk/looking-after/strategies-and-policies/landscape-strategy/ash-dieback http://www.tdag.org.uk/trees-in-the-townscape.html
National Tree Safety Group (NTSG) The impact of new pests and diseases on the NTSG guidance on trees and public safety in the UK for owners, managers and advisers	http://rfs.org.uk/learning/external-advice-and-guidance/tree-diseases/
Bat Conservation Trust Recommendations on managing trees affected by ash dieback along highways, roads and woodland rights of way	https://treecouncil.org.uk/wp-content/uploads/2019/12/BCTs-recommendations-on-managing-trees-affected-by-ash-dieback-along-highways-roads-and-woodland-rights-of-way-002-2.pdf
Arboricultural Association Ash Dieback Practice Guidance	https://treecouncil.org.uk/wp-content/uploads/2019/12/BCTs-recommendations-on-managing-trees-affected-by-ash-dieback-along-highways-roads-and-woodland-rights-of-way-002-2.pdf
The Tree Council A Toolkit for local authorities dealing with ash dieback	https://treecouncil.org.uk/science-and-research/ash-dieback/local-authority-ash-dieback-action-plan-toolkit/