

Culture and Communities Committee

10.00am, Tuesday, 1 February 2022

Ash Dieback Action Plan

Executive/routine Wards Council Commitments	Routine All 43, 44
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1. Recommendations

- 1.1 It is recommended that Committee:
 - 1.1.1 Supports the implementation of the Ash Dieback Action Plan; and
 - 1.1.2 Notes that implementing the Ash Dieback Action Plan will lead to an unavoidable financial pressure for the Place directorate which officers will be required to contain within existing budgets.

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Ash Dieback Action Plan

2. Executive Summary

- 2.1 Ash dieback is a serious tree disease epidemic caused by a fungal pathogen. It will kill around 80% of ash trees across the United Kingdom (UK), change the British landscape forever and threaten many species that rely on ash for their existence.
- 2.2 The disease causes dieback of shoots and branches, early leaf-fall, and ultimately the death of ash trees. Affected trees quickly become brittle and may drop branches or fall over, which increases the risk of injury, property damage, road traffic accidents and, potentially, fatality.
- 2.3 Many thousands of ash trees across Edinburgh will need to be felled in the next five to 10 years, having a direct impact on the city's ambition to become a Million Tree City, and at significant additional resource cost to the Council.
- 2.4 An Ash Dieback Action Plan has been drafted to manage this process in a coordinated and programmed manner, a key element of which is the replanting of trees to offset anticipated losses.

3. Background

- 3.1 The European (or common) ash tree, *Fraxinus excelsior*, is a native deciduous species of tree which is abundant throughout Edinburgh, Scotland and the wider UK. It is a very prolific species and tends to self-seed widely. Ash will therefore be present on every type of site managed by the Council, including parks, cemeteries, woodlands, schools, care facilities, civic building and depot grounds, Council housing gardens, active travel routes, walkways and roadside verges.
- 3.2 Ash dieback is a serious tree disease epidemic caused by a fungal pathogen, *Hymenoscyphus fraxineus*, also known as *Chalara fraxinea*. It causes dieback and death of ash trees. Symptoms include dieback of shoots and branches, and withered, browned leaves that fall early. The dieback progresses through the crown and can kill a mature tree in two years. The wood of affected trees often becomes brittle, making tree removal more difficult and dangerous than usual.
- 3.3 The fungus overwinters in leaf litter on the ground, particularly on ash leaf stalks. It produces small white fruiting bodies between July and October which release spores into the surrounding atmosphere. These spores can blow tens of miles

away. They land on leaves, stick to and then penetrate into the leaf and beyond. The fungus then grows inside the tree, eventually blocking its water transport systems, causing it to come under extreme physiological stress and ultimately die. The tree can fight back, but year-on-year infections will probably eventually kill it.

- 3.4 The fungus originated in Asia, where it is a fairly harmless component of indigenous woodland ecology, causing only minor damage to its host, *Fraxinus mandschurica*. It was transported to Poland in the mid-1990s, where it gained proximity to *Fraxinus excelsior* and became extremely destructive. It spread rapidly throughout Europe and was confirmed in the UK in 2012. Over the next five to 10 years, 95 - 98% of British ash trees are expected to become infected with ash dieback. Although a small proportion have some natural resistance to the disease, 75 - 90% of these are expected to die.
- 3.5 Ash supports many invertebrate species which in turn support bird and other animal populations. Several dozen invertebrate species are obligate on ash and cannot survive without it, and several dozen more have a strong preference for ash as their habitat. Some fungal species also exist exclusively or preferentially on ash. The loss of ash trees will therefore significantly impact biodiversity, many species likely becoming at risk, endangered or even extinct.
- 3.6 Initial research findings suggest that there may be some trees tolerant to ash dieback, meaning that the population could eventually recover over the remainder of this century. However, tolerance to the disease is complicated by differing genetic traits, the relative health of the tree and the number of ash dieback spores in the atmosphere. A UK Ash Research Strategy has been launched to address the nationwide impact of ash dieback. As part of this, trees showing tolerance have been grafted and planted to form the National Archive of Tolerant Ash. Chemical fingerprinting and controlled inoculations are being used to quantify tolerance and develop new propagation techniques. Tolerant seed identified and produced by these processes will be used to begin a national replanting programme.

4. Main report

- 4.1 There are an estimated 730,000 trees in the city, of which almost 44,000 are ash and, of these, some 11,000 are owned and managed by the Council. In addition, there are many more unrecorded trees in the wider local authority area, and therefore an even larger number of ash trees across Edinburgh.
- 4.2 The Council's Millennium woodlands and subsequent woodland planting programmes contain a high proportion of ash trees as part of their planting mix. Due to their relative youth it is likely that many have been excluded from the city-wide estimate, meaning that the overall number of ash trees managed by the Council is likely to be closer to 40,000. An updated authority-wide tree survey is planned as part of the Million Tree City programme, which will capture currently unavailable data and provide more detailed estimates of tree numbers, species and distribution.

- 4.3 The most immediate risk of ash dieback is the safety of residents and arboricultural officers. Trees affected by ash dieback quickly become brittle and may drop branches or fall over. This can cause injury, property damage, road traffic accidents and, in the worst case, fatality. Arborists working on diseased ash, whether in the Council's squads or for contractors, face an increased risk due to the brittleness and unpredictability of the timber. This particularly makes traditional roped access on ash trees unviable.
- 4.4 The Council has a duty of care to take whatever steps are reasonably practicable to prevent our trees from causing foreseeable harm. This duty requires the Council to take robust action to manage the risks to safety presented by ash dieback. Private tree owners also have a duty of care, and residents with ash trees on their land will also need to take appropriate action.
- 4.5 The City of Edinburgh Council has already taken positive and practical steps to manage ash dieback and its consequences to the city's arboreal heritage.
- 4.6 Concerns were initially reported to the Transport and Environment Committee at its meeting of 12 January 2016 as part of a report on disease threats to city trees. Since then, a risk-based approach has been used to prioritise tree survey and removal works, factoring in tree condition and location.
- 4.7 Officers have also been undertaking survey and analysis of diseased ash trees to ascertain the likely costs of a sustained city-wide survey and tree removal programme. This has determined that four Assistant Tree and Woodland Officers will be needed to sustain the necessary ash tree surveying and disease assessment. These posts are now being recruited to.
- 4.8 Data collected to date suggests that additional arborist resource will be required to deal with the extra tree removal workload, as well as investment in additional equipment to work on diseased ash trees in a safe and speedy manner.
- 4.9 Tree replacement is accommodated within the Million Tree City planting programme, as reported to Committee at its meeting of 26 January 2021.

5. Next Steps

- 5.1 Establish a cross-service working group to implement the Ash Dieback Action Plan and review its delivery. This is likely to include representatives from Neighbourhood Environmental Services, Roads and Infrastructure, Strategic Asset Planning, Housing Strategy and Development, Housing Operations, Education and Children's Services and Edinburgh Leisure.
- 5.2 Initiate annual surveying to monitor the spread of ash dieback and identify trees that need removing. Surveying for ash dieback symptoms needs to take place between late-June and mid-September. An ash tree which becomes infected with ash dieback disease can go from full health to highly dangerous within two years, so surveys will aim to cover all Council-owned ash trees on a two-yearly rotation.

- 5.3 Finalise the financial plan to meet the costs of implementing the Ash Dieback Action Plan.
- 5.4 Review progress in implementing the Ash Dieback Action Plan and report this to Committee on an annual basis.

6. Financial impact

- 6.1 Four Assistant Tree and Woodland Officers are being recruited to undertake surveying and disease assessment at a revenue budget cost of £118,360. This investment was funded through increases to the Parks and Greenspace service budget.
- 6.2 In order to address the increased workload that will result from the enhanced inspection programme, and ensure that risks are addressed timeously, additional arborist resource is required. The service has conducted an analysis of the required resource and identified that eight additional frontline staff (two Lead Arborists and six Arborists) are required on a permanent basis along with associated vehicles, machinery, Personal Protective Equipment (PPE), training and fuel budgets. This has an estimated cost of c.£320,000 per annum of revenue funding, with up to £200,000 of capital funding required to purchase specialist equipment. The capital costs will be funded from the existing Parks and Greenspace capital allocation. The c.£320,000 per annum of revenue funding will be addressed through a re-prioritisation of the Operational Services budget.
- 6.3 The loans charges associated with the £200,000 capital investment over a seven-year period would be a principal amount of £200,000 and interest of £38,258, resulting in a total cost of £238,258 based on an assumed loans fund interest rate of 4.2%. This represents an annual cost of £0.034m to be met from the corporate loans charge budget. Borrowing will be carried out in accordance with the Council's Treasury Management Strategy.

7. Stakeholder/Community Impact

- 7.1 The timely identification and removal of dangerous ash trees will ensure that parks, green spaces, school-grounds and other open spaces can remain safe and publicly accessible.

8. Background reading/external references

- 8.1 The Tree Council's Ash Dieback Toolkit for Scotland – this provides advice for organisations on development of an Ash Dieback Action Plan:<https://treecouncil.org.uk/wp-content/uploads/2021/06/Ash-Dieback-Action-Plan-Toolkit-for-Scotland-June-2021.pdf>

- 8.2 Scottish Forestry's advice on ash dieback management:
<https://forestry.gov.scot/sustainable-forestry/tree-health/tree-pests-and-diseases/chalara-ash-dieback>
- 8.3 Forest Research has provided information and advice regarding ash dieback:
<https://www.forestresearch.gov.uk/tools-and-resources/pest-and-disease-resources/ash-dieback-hymenoscyphus-fraxineus/>
- 8.4 [Transport and Environment Committee Report 12 January 2016.](#)
- 8.5 [Culture and Communities Million Tree City Report 26 January 2021](#)

9. Appendices

- 9.1 Appendix 1 - Draft Ash Dieback Action Plan.

The City of Edinburgh Council

Ash Dieback Action Plan



February 2022

Executive summary

Ash dieback is a serious tree disease epidemic caused by the fungal pathogen, *Hymenoscyphus fraxineus*. It causes canopy dieback and rapid death of ash trees. The wood of affected trees often becomes brittle, making tree removal difficult and dangerous and a safety hazard to outdoor space users, residents and arboricultural employees and contractors.

Many thousands of ash trees will need to be felled in the next 5-10 years. Due to brittleness, these felling operations may be more complex and costly than usual. There will also be significant tree surveying requirements that will need to be undertaken in addition to existing tree health and safety assessments, as well as additional tree planting to replace removed trees. This will present significant additional revenue and capital cost to the Council.

Surveying for ash dieback symptoms needs to take place between late June and mid-September as part of an annual survey and will largely be carried out by Assistant Tree and Woodland Officers. As more survey data is collected and collated, our understanding of required on-going survey and tree removal works will grow, which will inform the long-term Action Plan delivery resource requirements.

Resources will be required to fund additional arboricultural officers and associated equipment/vehicles needed to deal with the extra workload of ash dieback tree removals.

1. Objectives

The objectives of this Action Plan are to:

- Identify the local risks from ash dieback and develop a plan to manage them.
- Initiate a survey of the ash population.
- Evaluate the risks associated with ash dieback and establish a risk-based approach for identifying, dealing, and recovering from ash dieback.
- Identify the costs of ash dieback management and secure budget to meet these costs.
- Undertake tree works across the Council's outdoor estate to make people and property safe from ash tree disease and death.
- Raise awareness of ash dieback among stakeholders and the public.
- Determine and initiate actions for those non-Council ash trees which present potential danger to users of public spaces.
- Develop and implement an ash tree recovery plan to mitigate biodiversity, landscape and environmental losses, as well as a replacement programme in line with the Million Tree City planting programme.
- Establish a stakeholder working group to monitor and manage the Action Plan.

2. Ash trees and dieback

2.1 Edinburgh's ash population

The ash tree, *Fraxinus excelsior*, is a common native species of tree which is abundant throughout the UK. It is a deciduous broadleaf species which grows to a large mature size.

In 2013 an i-Tree Eco survey was undertaken in Edinburgh which estimated a total of 712,000 trees in the city, of which some 6% (42,720) are ash trees. The survey also estimates that 75% of the city's trees are in private ownership and 25% are owned by the Council. This suggests 10,680 ash trees are within Council ownership and 32,040 on non-Council land. However, this survey covered only land within the city bypass so excludes large parts of the City of Edinburgh administrative area containing woodland or individual ash trees.

There are currently 4,160 individual ash trees recorded on the Council's tree management database. However, this data set is incomplete as many Council trees remain unrecorded, notably on the former City Development account. We also know that the Council's Millennium woodlands contain an additional 27,000 young ash trees.

Ash is a very prolific species and tends to self-seed widely. It will be present on every type of site managed by the Council, including parks, cemeteries, woodlands, schools, care facilities, Council depots, Council housing gardens, cycle paths, walkways and roadside verges. It is a species with a very large mature size and so although 6% of the total number of trees may be ash, it is likely to represent greater than 6% of the total canopy cover.

Edinburgh's green spaces contain a number of specimen ash cultivars that are also susceptible to ash dieback, notably the weeping ash, *Fraxinus excelsior* 'Pendula', and the single-leaved ash *Fraxinus anomala*.

2.2 Ash dieback

Ash dieback is a serious tree disease epidemic caused by the fungal pathogen *Hymenoscyphus fraxineus*, also known as *Chalara fraxinea*. It causes dieback and death of ash trees. Symptoms include dieback of shoots and branches, and withered, browned leaves that fall early. The dieback progresses through the crown and can kill a mature tree in two years. The wood of affected trees often becomes brittle, making tree removal more difficult and dangerous than usual.

The fungus originated in Asia, where it is a fairly harmless component of the woodland ecology, causing only minor damage to its host, *Fraxinus mandschurica*. It was transported to Poland in the mid-1990s, where it obtained access to *Fraxinus excelsior* and became extremely destructive. The fungus spread rapidly throughout Europe and its presence was confirmed in the UK from 2012. In the next 5-10 years, 95-98% of British ash trees are expected to become infected with ash dieback. A small proportion have some natural resistance to the disease, but 75-90% are expected to die outright.

3. Benefits of urban trees and woodlands

3.1 The environment

Trees have a strong positive impact on the local environment. They provide habitat for wildlife, including invertebrates, birds and bats, as well as supporting lichens, bryophytes and fungal species - key components of local ecosystems. Trees produce oxygen and filter pollution, improving air quality. They prevent soil erosion and keep sites stable. They act as long-term carbon sinks, slowing the effects of climate change. They also reduce the frequency and severity of flooding by intercepting rainfall above ground, absorbing it from below ground, and maintaining soil permeability.

3.2 Human health

A healthy urban forest is important for human health and wellbeing. The presence of trees is associated with improved mental and physical health, including faster healing from illness, healthier pregnancies and a reduction in the occurrence of the major non-communicable diseases. Trees encourage use of green space, which improves social cohesion, increases physical activity and enhances mental acuity.

3.3 Benefits to the city

Trees in cities improve the local economy by encouraging visits to shops, increasing property prices, increasing the productivity of workers, and decreasing spend on healthcare and storm water management. They enhance the landscape, providing visual screening, windbreaks and the reduction of noise pollution. Trees form landmarks throughout the city and contribute to

the sense of place. They insulate urban spaces, providing shade in summer and reducing the urban heat island effect.

4. Impact of ash dieback

4.1 Health and safety

The most significant risk of ash dieback is to the safety of residents and colleagues. Trees affected by ash dieback quickly become brittle and may drop branches or fall over. This can cause injury, property damage, road traffic accidents and fatality.

Arborists working on diseased ash, whether in the Council's squads or for contractors, face an increased safety risk due to the brittleness and unpredictability of the timber.

The Council has a duty of care to take whatever steps are reasonably practicable to prevent its trees from causing foreseeable harm. This legal duty requires that the Council take action to manage the safety risks presented by ash dieback. Private tree owners also have a duty of care, and residents with ash trees on their land will also need to take appropriate action.

4.2 Environmental damage

Ash is a native tree which supports many invertebrate species which in turn support bird and mammal populations. Several dozen invertebrate species are obligate on ash and cannot survive without it, and several dozen more have a strong preference for ash as their habitat. The crown shape, late flush and early leaf fall of ash allows a number of ground cover species to grow underneath it in woodlands, and these species in turn support additional invertebrates. Some fungal species exist exclusively or preferentially on ash. The loss of ash trees will therefore significantly damage UK biodiversity.

There will also be a loss of other ecosystem services provided by ash. Some sites are likely to see an increase in noise pollution, air pollution, wind exposure, soil erosion, and flooding. Where ash forms a major component of wildlife corridors which connect multiple sites, such as cycle paths, their loss will fragment green networks and damage the ability of fauna to travel and spread. Large numbers of ash lost on slopes or riverbanks will damage river ecology and may lead to destabilised ground.

The Council has declared a climate emergency and committed to a target of net zero emissions by 2030. The loss of ash trees will set us back in achieving this target.

4.3 Loss of landscape value

Ash is a significant component of Edinburgh's urban forest. The loss of ash trees will mean major visual changes to the landscape and to the character of our parks, woodlands, other green spaces, schools and the cityscape as a whole.

4.4 Financial impact

There will be a need for significantly more tree health and safety surveying, and due to brittleness caused by ash dieback, felling operations will be more complex and costly than usual. This will add substantial cost to the Council's tree management budgets. There will also be a cost for the replanting needed to mitigate the losses.

There will be an economic impact on private landowners who need to fell ash trees, and this cost may be difficult for some residents to meet.

4.5 Reputational damage

Ash dieback and associated tree works are likely to cause disruption when roads and infected sites need to be closed to public access. Residents may be resentful of the Council removing diseased trees and its impact on their neighbourhood. If ash trees fall and cause harm this may reflect badly on the Council and potentially lead to legal action and insurance liability claims.

5. Action plan

5.1 Stakeholders and Working Group

There are a number of key Council services and other organisations that will be affected by ash dieback and its management. Internal stakeholders are Education and Children's Services, Sustainable Development, Housing Services, Roads and Transport Infrastructure, Properties and Facilities Management, Cemeteries, Planning, Councillors and Communications. External stakeholders include Edinburgh Green Space Forum, Forest Kindergarten groups, the Water of Leith Conservation Trust, Edinburgh Leisure, and the Council's arboricultural contractors.

An Ash Dieback Working Group to implement and review implementation of the Ash Dieback Action Plan will be established from stakeholder representatives; others will be kept informed of its delivery.

5.2 Monitoring the spread of ash dieback

Annual surveying will be undertaken each summer to monitor the spread of ash dieback and identify those trees that need removal. This will include:

- All public roads and highways, active travel routes, public footpaths and public rights of way – there is an estimated 1470km of roads and 118.2km of non-road footpaths across Edinburgh.
- All Council sites – public parks, cemeteries, public golf courses, the grounds of civic buildings, woodlands, school grounds, health and social care facilities, Council depots, Council house gardens, sheltered housing, etc.

In adopting a risk-based approach, the principal aim is to prevent trees from falling and causing harm. It will not be necessary to search through deep woodlands to find every diseased ash – only the ones which cause greatest risk will need to be removed.

An ash tree that becomes infected with ash dieback disease can go from full health to highly dangerous within two years, so the condition survey aims to cover all Council-owned ash trees on a two-yearly rotation.

Once each surveying season has been completed, we will have a clearer idea of how much ground each surveyor can cover in the available time and be able to calculate the long-term resource needs for future survey. This survey will also pick up ash trees that have not previously been recorded for future monitoring.

All survey staff will receive training from the Tree Council in identification and management of the disease.

5.3 Tree removals

Removal of Millennium woodland trees

There are around 258,000 semi-mature trees in the Council's Millennium woodlands, ash making up 10-15% of the species composition. As part of good woodland management practice, most of these woodlands are now due to be "thinned", so we will remove all ash trees during this process. This will create more light and space and so encourage healthy development of the remaining trees.

Removal of other trees

Tree removals will be undertaken by both our own arboricultural teams and by our arboricultural contractors using a risk-based approach to prioritisation that considers tree condition, location and the type of site. There may be circumstances that merit the pre-emptive felling of healthy ash trees, although this will be minimised. In woodland settings, some ash may be retained as standing trunks or stacked as logs to create deadwood habitat.

Due to the additional hazards to arborists caused by the brittleness and relative unpredictability of diseased ash trees we will procure mobile elevated work platforms to dismantle those ash trees which have become too dangerous to climb by rope and harness. Access issues on some sites (e.g. Council house gardens) may require an alternative operational approach.

Extensive road closures/parking suspensions (including diversions where necessary) will be required if trees are to be removed within programme timescales, and so an effective process for arranging these will be developed.

5.4 Review of legal requirements

TPOs and Conservation Areas

Ash dieback felling is not exempt from the need for Tree Preservation Order consent and Conservation Area notification. Works orders will therefore be submitted through the ePlanning portal in accordance with the standard procedure.

Felling permission

Many sites are exempt from the need for felling permission (i.e. public open spaces, domestic gardens, cemeteries, and any trees that are dead). Trees within schools and woodlands are not exempt and as tree removals will likely exceed the threshold of 5m³ of timber within a calendar quarter-year they will require felling permission. We will therefore establish a process for obtaining permission for each relevant site, taking advice from Scottish Forestry on the most efficient way to do this.

Biodiversity

The UK Forestry Standard requires the Council to manage its woodlands and wider landscape in a way that conserves or enhances biodiversity. Under the Nature Conservation (Scotland) Act 2004 the Council also has a duty to consider biodiversity in all of its work. This is affirmed as a priority in the Edinburgh Biodiversity Action Plan, which promotes the preservation and enhancement of the natural environment within the city.

Bats, birds and badgers are protected under the Wildlife and Countryside Act 1981. Any tree works undertaken by the Council must proceed in accordance with this legislation to minimise disturbance of these protected species.

Duty of care

Under the Occupier's Liability (Scotland) Act 1960, the Health and Safety at Work Act (1974) and common law, the Council has a duty of care to ensure that our sites are reasonably safe. If large numbers of trees on a site become dangerous and we cannot remove them all within a suitable timescale, we may need to consider closing the site until we can make it safe.

5.5 Private trees

Any works required on private trees which are a danger to the highway will be planned in collaboration with Roads and Transport Infrastructure. Statutory notices using the Roads (Scotland) Act will be utilised.

Although the Council has no statutory power to enforce removal of a dangerous private tree next to a Council managed public green space it can take a civil action where needed or issue advisory notes to owners. There may be ash trees on private land where we cannot identify the owner, or where the costs of identifying the owner would be prohibitive. In such situations, a decision will be required on whether to remove these trees at the Council's cost. There may be additional legal and estate services costs in identifying legal ownership or taking appropriate action where legal recourse is necessary.

5.6 Estimation of costs

The recruitment of additional two additional arborist squads will be required to deal with the extra workload of ash dieback tree removals. This resource is required as an urgent priority.

The Forestry service will also need to purchase or hire additional large equipment, including tracked chippers and trailers, MEWPs, tractors with crane, and stump grinders.

5.7 Communication strategy

The removal of trees is an emotive subject for many. Public awareness of ash dieback and the actions necessary to manage its impacts are therefore important considerations. The following communication approaches will therefore be initiated:

- A public information campaign – social media, local press, Council website, public signage etc - will inform the public about the Council’s ash dieback action plan and will also provide advice to owners of ash trees.
- An ash dieback management guidance note - to be circulated on social media and sent to any resident who is found to have a diseased tree.
- Political communications - keeping Councillors, MPs and MSPs informed of issues and progress.

5.8 Replanting

The Edinburgh Million Tree City Project aims to increase the city’s tree population to 1,000,000 by 2030. This will involve planting around 250,000 trees, as street trees, woodlands, trees in private gardens and trees as part of new developments. Where appropriate replanting will take place where ash has had to be removed. Compensatory planting will be programmed for nearby locations should it not be suitable to directly replace removed ash. The planting programme will prioritise supporting biodiversity, including a focus on tree species which can best replace the ecosystem services currently being provided by ash. Where suitable, we will replant with genetically resistant ash when this becomes commercially available.

6. Useful links

The Tree Council’s Ash Dieback Toolkit for Scotland – this provides advice for organisations on development of an Ash Dieback Action Plan:

<https://treecouncil.org.uk/wp-content/uploads/2021/06/Ash-Dieback-Action-Plan-Toolkit-for-Scotland-June-2021.pdf>

Scottish Forestry’s advice on ash dieback management:

<https://forestry.gov.scot/sustainable-forestry/tree-health/tree-pests-and-diseases/chalara-ash-dieback>

Forest Research have provided information and advice regarding ash dieback:

<https://www.forestryresearch.gov.uk/tools-and-resources/pest-and-disease-resources/ash-dieback-hymenoscyphus-fraxineus/>