

Tree diseases and their potential impact - update

Tree diseases are having a significant effect on our tree cover and public safety whilst the pressure on our resources from managing them is likely to increase for many years to come

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Our tree and woodland estate provide a range of benefits to the whole city

Managing our estate is vital not only for now and the immediate future but also for the future of our city (and planet). The trees and woodlands of Sheffield are collectively one of the city's greatest natural assets, providing a range of benefits for the public and making urban areas more attractive and healthier places within which to live, work and play. Measured benefits of our 'urban forest' include the storage of 545,000 tons of carbon; the annual removal of 374 tons of airborne pollutants; the alleviation of 520,000m³ of storm water (equivalent to more than 202 Olympic-sized swimming pools), reducing stress on storm water drains and mitigating flood risk. The calculated capital asset value (CAVAT) of the tree cover is estimated to be £9.3billion (iTree 2017)

Our tree and woodland work is important across the city

Parks and Countryside is responsible for the management of trees, woodlands and plantations across the city equating to over 98% of council managed tree cover. This involves the inspection of sites and acting on dangerous trees as well as the management of woodlands in line with strict FSC Certified environmental, social and economic standards. These quality standards ensure best practice woodland management and secure higher values for the timber we sell.

Tree related pests and diseases are common however some can cause widespread loss in certain species

Whilst all trees are subject to attacks by pests and disease throughout their natural life cycle, two relatively recent outbreaks in Sheffield namely Ash Dieback Disease and Ramorum Disease are now having a significant long-term impact on the landscape, the environment, and existing resources.

Ash Dieback will cause the loss of up to 137,000 Ash trees on council land over the next 10-15 years

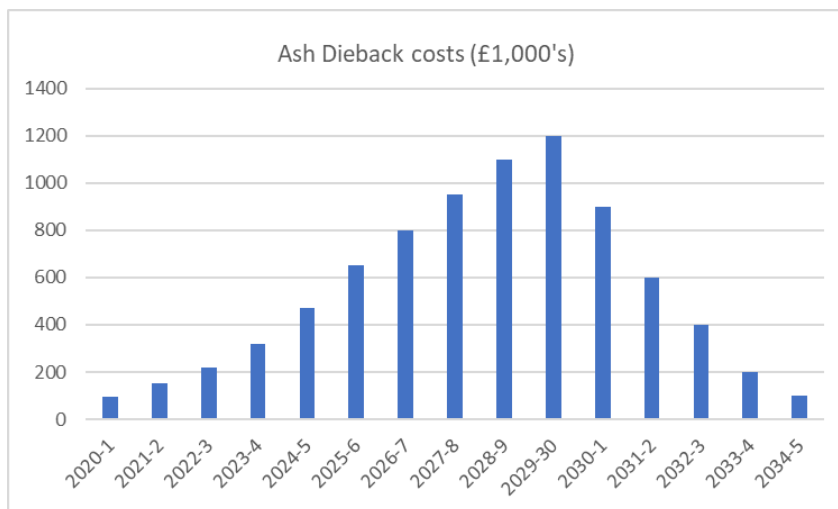
According to national guidance, Ash Dieback is expected to result in the loss of between 50% – 85% of all Ash trees over the next 10-15 years. Of the estimated 270,000 Ash trees in Sheffield, 160,000 are growing on council land and we will lose up to 137,000 of these.

Many diseased trees will need to be removed before they collapse

As the diseased Ash trees decline their structure becomes brittle leading to limb or whole tree failure. Due to their location near people or property we estimate that within the 10-15 year period we will need to pro-actively remove between 12,000- 22,000 trees due to public safety concerns. Removal of the trees must be carried out within a certain timeframe as their increasingly brittle structure poses an additional risk to contractors carrying out the work.

Costs will continue to increase in the coming years for Ash Dieback work

The average cost of removing a tree is around £400 meaning that the total cost of removing the 12-22,000 that pose a risk to people or property will be between £5 million (if 50% affected) and £9 million (if 85% affected). We are anticipating that 2023-24 costs for Ash Dieback work will be approx. £320,000 and likely to be nearer £500,000 for 2023-24. The estimated cost implications over the 10-15 year period is shown in the graph below.



Other impacts include a changing landscape and loss of wildlife habitat

The loss of so many Ash trees will have a significant effect on the landscape. The impact is likely to be greatest in our parks and open spaces where large individual trees stand. It is likely to be less noticeable in our woodlands where mixed species grow closely together and where natural regeneration will fill the gaps over time. Past studies have found that over 1000 species were associated with Ash trees, including birds, mammals, bryophytes, fungi, invertebrates and other plants. A number of these are rare species which are only likely to become rarer due to the loss of Ash trees.

All other Local Authorities in the UK will be affected to some degree

A recent survey of local authorities by APSE (Association for Public Service Excellence) found that:

- 33% of LA's expected to remove more than 5000 Ash trees over the next 6-10 years
- 35% of LA's expected to spend over £1,000,000 over the same time period (the highest cost bracket in the survey)
- 24% of LA's expect to spend over £10million dealing with Ash Dieback in total. Sheffield's extensive tree cover suggests that we will be in the top third in terms of spending in dealing with Ash Dieback

It has been estimated that the total cost of Ash Dieback to the UK will be around £15billion. Whilst there are grants available for replanting, currently there is no additional funding from central government for the removal of diseased trees

We anticipate more diseases impacting on our tree and woodland estate

Global trade has significantly increased the number and spread of new pests and diseases coming to the UK. Tree imports rose by 700% between 1992 and 2019 coinciding with 267 non-native plant pests and diseases arriving and establishing themselves here. Climate change is changing our environment causing stress to existing trees and providing newly hospitable environments for new pests to thrive. Sooty Bark Disease which affects Sycamore trees (our 2nd most common tree in Sheffield) is now more prevalent. Outbreaks follow periods of extreme dry weather. Other current threats (which would largely impact our conifer plantations) are Phytophthora pluvialis (affects Douglas Fir and Pine), Pine Processionary Moth (Pine), Great Spruce Bark Beetle (Spruce), European Spruce Bark Beetle (Spruce), and Oak Decline (affecting our 3rd most common tree). Another 127 pests & diseases are considered to be a high risk to the UK should they reach here.

Ramorum disease affects Larch trees in particular and will have greatest impact on our commercial forestry plantations

Ramorum Disease affects Larch trees and is notifiable – removal of plantations affected by the disease is mandatory under a Statutory Plant Health Notice (SPHN) and must be acted on before our scheduled forestry programme. To date, we have had to clear fell a large plantation in the Limb Valley along with some groups of Larch in Ecclesall Woods. Further felling in Wyming Brook is due to be carried out this autumn by Sheffield and Rotherham Wildlife Trust who manage the site.

The disease will result in lower timber income which will affect our wider woodland estate

The impact of the outbreaks is that plantations may be removed earlier than planned and that there are additional costs to the process and reduced value of the timber. As an example, an SPHN in the Limb Valley increased costs of our planned felling to the point that we barely broke even during a year of all-time high timber prices. The one certainty is that we are likely to see further outbreaks within our estate and that we will be obliged to respond (often at significant cost.) Traditionally we use the timber income to fund maintenance of our wider woodland estate. The impact of this on our wider woodland estate is that there is less funding for the management of the wider woodland estate.

We are managing the situation in a number of ways

We are:

- Managing Ash Dieback through a dedicated Ash Dieback Action Plan based on national guidance. This includes regular inspections of higher risk trees and placing contracts for removal work where appropriate.
- Replacing the trees through our community forestry programme – in particular those in our open spaces where natural regeneration is unlikely to take place.
- Only sourcing trees through UK nurseries with appropriate biosecurity management or where this isn't possible then insisting on appropriate quarantine arrangements.

- Providing regular updates to senior management and have included Ash Die Back in the Risk and Issues Management Plan
- Developing 'Forest Resilience' by looking at alternative more robust species as we replant the forests, along with biosecurity measures to slow the spread such as site signage, minimising vehicle movements and disinfection of equipment and clothing.
- Working closely with partners such as the Forestry Commission and Woodland Trust to maintain best practice.
- Reducing the number of Larch in our other plantations to slow the spread of Ramorum disease.
- Getting the message out there through regional meetings, briefing notes, site notices, tree related events, and through the media