FRIENDS OF HIGHGATE CEMETERY TRUST

Highgate Cemetery
Ash Dieback Management Plan

1. Site address

Highgate Cemetery, Swain's Lane, London N6 6PJ

2. Scope

This plan sets out how the Friends of Highgate Cemetery Trust ('the Trust') intends to manage trees at Highgate Cemetery affected by ash dieback.

3. Description of site

Highgate Cemetery is formed of two parts either side of Swain's Lane. The west side is 17 acres and the east side is 19 acres. The west side has more significant historic tree cover with late twentieth century ash woodland predominant in the east side and fewer historic trees.
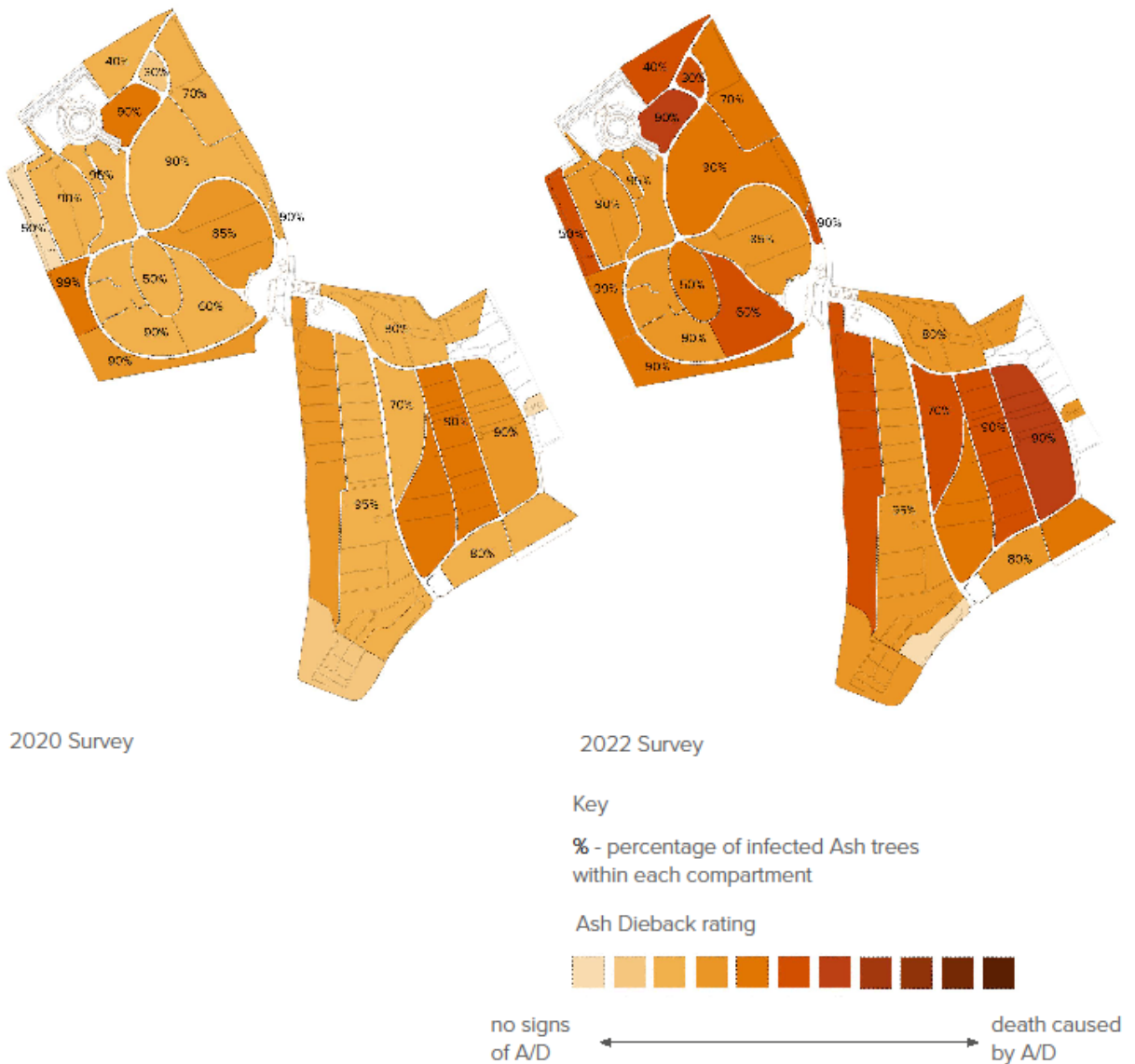
Highgate Cemetery is included in the Highgate Conservation Area, designated in 2007. There are no trees subject to a Tree Preservation Order.

4. Ash dieback and Highgate Cemetery

There is a significant network of 'parent' ash which will have been the main seed source for the extensive secondary ash woodland which developed naturally under the overstorey framework since the 1970s. Most of the self-sown ash trees are poorly rooted above or next to a grave or vault. This means that their roots are constrained and compromised in their ability to anchor into the soil.

A survey in 2019 confirmed the presence of ash dieback on site and several compartments in the east side of the cemetery were identified as high priority for felling and replanting. It recommended clear felling of ash across both sides over a period of ten years, which could be shortened or extended depending on the rate of spread of the disease.

A follow-up survey in 2022 confirmed that the disease had spread rapidly in the cemetery. The plans below show the rapid progress of the disease between the two surveys. Since then, the wet and warm conditions during the winters of 2022/23 and 2023/24 have significantly accelerated its spread.

2020 Survey

2022 Survey

Key

% - percentage of infected Ash trees
within each compartment

Ash Dieback rating

no signs
of A/D

death caused
by A/D

5. Risks

- Tree fall, particularly resulting from secondary fungal infection rotting the trunk core, or from root plate failure in poorly rooted trees.

- Branch fall, due to the brittleness of dead and diseased branches.

These risks arise from ash dieback itself and from other fungal pathogens targeting the weakened tree. Honey Fungus *(Armillaria mellea)* specifically targets the host tree's roots, buttresses and lower stem and in advanced instances can cause catastrophic root plate failure due to degradation of the structure of the wood. Shaggy Polypore *(Inonotus hispidus)* specifically targets the host tree's non-functioning heartwood found either within the stem or branches of the host tree, causing brittle fractures due to white rot.

Falling trees or branches are a hazard for visitors, volunteers and staff, who may also be injured by the secondary effects of a memorial being dislodged or shrapnel from the impact.

They are also a hazard for the memorials in the cemetery, around 80 of which are listed, and many more protected by conservation area designation.

6. Identification of trees affected

Our head gardener now has long experience working alongside Bartlett Tree Experts Ltd identifying trees affected by ash dieback since it was first noted here in 2019, both from the symptoms of the disease itself and the secondary infections which follow. There are also many additional resources available on the web.

We also have periodic surveys by a tree surveyor to monitor tree health. The tree surveyor is a competent and qualified person with a good understanding of tree surveying methods and techniques, as well as of the disease and its impacts.

As a guide we use the four classes of severity of infection set out in the Tree Council publication: *Ash Dieback Disease, A Guide for Tree Owners*, dated June 2020:

CLASS 1: 100% – 76% of the crown remains	CLASS 2: 75% – 51% of the crown remains
CLASS 3: 50% – 26% of the crown remains	CLASS 4: 25% – 0% of the crown remains

7. Ash tree strategy

We aim to retain as many ash trees as possible. Well-formed, well-rooted and healthy trees in appropriate positions (not rooted on or adjacent to a memorial) will be retained providing they are not showing symptoms of the disease. They may be resistant and are worth preserving as they could form the basis of a future healthy ash population.

However, we know from experience that dying parts of infected ash trees rot or become brittle very quickly. It does not take long for them to become unstable, making them difficult and dangerous to climb. We must tackle affected trees before they decay to such an extent that they can only be dealt with by a MEWP (Mobile Elevated Work Platform) as these very expensive to hire and large parts of the cemetery are inaccessible to them.

While we can try to reduce the risk they pose to people by temporarily prohibiting access or diverting paths, this will not remove the risk to the significant memorials which are an important part of the cemetery heritage. We cannot wait until the infection is significantly advanced.

Picture: One tree fall can damage a significant number of monuments.

8. Works proposed to affected trees

Trees will be assessed individually considering the severity of infection and the risk to people and monuments.

8.1 Class 1 infection

In the early stages of infection it may be possible to save an infected tree. If it is well located and otherwise healthy, well-rooted and formed, and

- more than 90% of the crown remains: we will reduce the crown by 20%. Deadwood and diseased branches will be removed.

- between 75% and 90% of the crown remains, and the tree does not show any signs of secondary diseases such as fungus or knot cankers we will pollard the tree down to two healthy growth points below the affected limb. Pollarding can increase the life expectancy of a tree, improve stability, and create decay wood habitats.

The tree will then be monitored for further signs of decline after three months (if in leaf) or at the next spring, depending on the time of year. If despite the crown reduction the ash dieback infection progresses, then we will try pollarding, as above. If pollarding is unsuccessful (that is, the tree shows continues to show signs of ash dieback infection, or secondary diseases such as fungus or knot canker) the tree will be removed.

8.2   Class 2, 3 and 4 infection

Our experience shows that trees having reached this level of infection are unlikely to recover, and some may also show signs of secondary infections. They may have already become unclimbable and will need to be removed as soon as possible, especially if near paths or highly-graded monuments.

9. Removing trees: Monolith or dismantle

The *Highgate Cemetery Conservation Plan* (2019) recognises the importance of retaining and improving the deadwood habitat. Accordingly, we will retain a proportion of removed trees as standing deadwood (as a 'monolith') where this would not be in conflict with cemetery use or the other aims of the Conservation Plan. We would consider the stability of the remaining deadwood, and whether it may prevent the installation, maintenance or repair of memorials, paths and drainage, or occupy a desired position for a new tree. The height of a retained monolith would depend on managing the fall risk not only to staff and visitors but also to significant memorials. A 'coronet' finish (to resemble the fracture that might occur when a limb is lost naturally as a result of wind or storm damage) will enhance their habitat potential.

Where a tree is to be removed, the stumps and roots will generally be left to rot naturally or treated with Ecoplugs® (crystalline glyphosate encapsulated in a plastic plug). Because of their design, Ecoplugs® present practically no risk of non-target drift or operator contamination. Where necessary stump and roots will be ground out.

10. Replacement trees

The Trust is working on a landscape masterplan which will improve the growing conditions for trees by dealing with sitewide drainage issues. The Trust is working with landscape architects and horticulturists to identify better planting locations, and to develop a new planting scheme which will include more resilient varieties with a higher tolerance to the effects of climate change and to increase biodiversity.

Unfortunately the speed with which ash dieback is progressing has overtaken our work on the landscape masterplan, meaning that we must now remove trees before the replacement details are entirely clear.