



Comhairle Contae Fhine Gall
Fingal County Council



Managing Ash Dieback in Fingal

Part of the Tree Strategy for Fingal

Introduction

Ash dieback (ADB) is a serious disease of ash trees caused by the invasive fungal pathogen *Hymenoscyphus fraxineus* (previously known as *Chalara fraxinea*). It is believed to have originated in Asia and was introduced to Europe in the early 1990s. Today, the pathogen affects most of the natural range of ash in Europe causing high mortality rates among ash trees.

Ash dieback was first detected in the Republic of Ireland in October 2012 on plants imported from continental Europe. The disease is now widely present throughout the island of Ireland and is predicted to cause the severe decline in the majority of the ash trees over the next two decades.



Identifying ADB

Initially, small dry necrotic spots appear on the stems and branches. Leaves on affected shoots flag and turn black, or dead brown to black spots appear on the leaves. At the base of twigs, a dark brown or blackening of the bark will spread up and down the stem. These lesions enlarge into stretched diamond shaped cankers on the branches, causing premature shedding of leaves. Affected ash trees will show loss of crown, with the top of crown dying first. Severely affected trees will not bud or flower in spring, and often produce epicormic growth in response to stress, a sign that the tree is struggling to survive.

The disease is chronic and can be lethal to the majority of ash trees. It is particularly destructive to younger trees, which can die within one growing season after symptoms appear. Older trees may survive initial attacks but tend to succumb eventually after several seasons of infection.

These larger, older trees, already stressed from ADB, may allow secondary pathogens to invade, leading to further decline or death of the tree.

Spores are released from fruiting bodies on fallen leaves, particularly on the rachis and petiole. Each annual fall of infected leaves increases the likelihood of site infection.

A range of symptoms associated with ash dieback includes:

Spots on foliage as well as wilting and discolouration.



All images: Teagasc

Identifying ADB

Brown / orange discolouration of bark with diamond-shaped lesions.



Image: Teagasc

Dieback of shoots, twigs or the main stem resulting in crown dieback



Image: Teagasc

Epicormic branching or excessive side shoots along the main stem



Image: Teagasc

Necrotic lesions and cankers along the bark of branches or main stem.



Image: Teagasc

For more information, follow the link:
<https://www.teagasc.ie/crops/forestry/advice/forest-protection/ash-dieback/symptoms-of-ash-dieback/>

Severely affected trees may fail to flush in the spring or may leaf out and show foliage symptoms later in the year.

Foliar symptoms are probably the easiest way to spot ADB, making Summer the most appropriate time to assess ash trees when they are in full leaf.

It is important to note that not all stress symptoms indicate ADB, so further investigation may be necessary to rule out other pathogens or disorders.



The Impact of Ash Dieback

Broadly speaking, ash trees growing in the Fingal Area are mainly found growing within roadside hedges, hedgerows, woodland and occasionally planted as street trees.

Ash dieback (*Hymenoscyphus fraxineus*) is now widespread throughout the island of Ireland. It is estimated that up to 90% of ash trees may succumb to the disease, resulting in a major change to our landscape and woodland structure having serious implications not only for timber production but also for amenity, biodiversity, carbon sequestration as well as culturally.

It is expected that a percentage of ash trees will show different levels of tolerance to ADB and may survive. **It is important that, where it is safe to do so, any trees demonstrating tolerance are conserved.**

It's recommended that ash trees, particularly in lower usage areas (lower level of risk to people and/or property), are retained where feasible and suitable to do so.



The Impact of Ash Dieback

By following this course of action, we can accommodate the retention of any potential genetically tolerant individual trees, providing greater future resilience to the disease within the remaining population, or if these trees do eventually succumb to the disease, they will continue to contribute ecological benefits securing rare and valuable deadwood habitat, particularly for bats which, under Annex IV of the EU Habitats Directive, are a legally protected species, throughout the wider landscape of Fingal. Further information on protected species can be found at <https://www.npws.ie/sites/default/files/files/strict-protection-of-certain-animal-and-plant-species.pdf> and on the NPWS website.

Teagasc is currently working on establishing a gene bank composed of genotypes of ash trees tolerant to ash dieback with the aim of producing planting stock for the future.

As well as the obvious impact on the wider landscape throughout Fingal, the loss of ash trees and the habitat they provide will greatly impact the biodiversity supported by the tree itself, as well as the ecosystem services this tree species provides for the greater community.

Where ash trees are an element of a woodland, there are various options available to manage the impact of their loss. These can range from relying on natural succession, to planting specific species or mixtures of species to meet woodland or site management objectives.



Planting and establishing alternative tree and shrub species that are ecologically similar to ash may offer options to mitigate against the ecological implications of ash tree loss as well as enabling us to introduce a more diverse range of tree species enabling our general tree population to become more resilient to current and future threats from pest and diseases and climate change.

In order to reduce the impact of the predicted tree loss throughout Fingal a proactive programme of re-placement planting of suitable, alternative tree species will be implemented.

Replacement Species options

No single species alone can replace all the characteristics of an ash tree, either ecologically, through its ability to support general and specialist vertebrates and epiphytes or in relation to its size, shape, and form.

When deciding what species to use as a replacement for ash it is recommended, that where possible, these trees are sourced and ideally propagated locally.

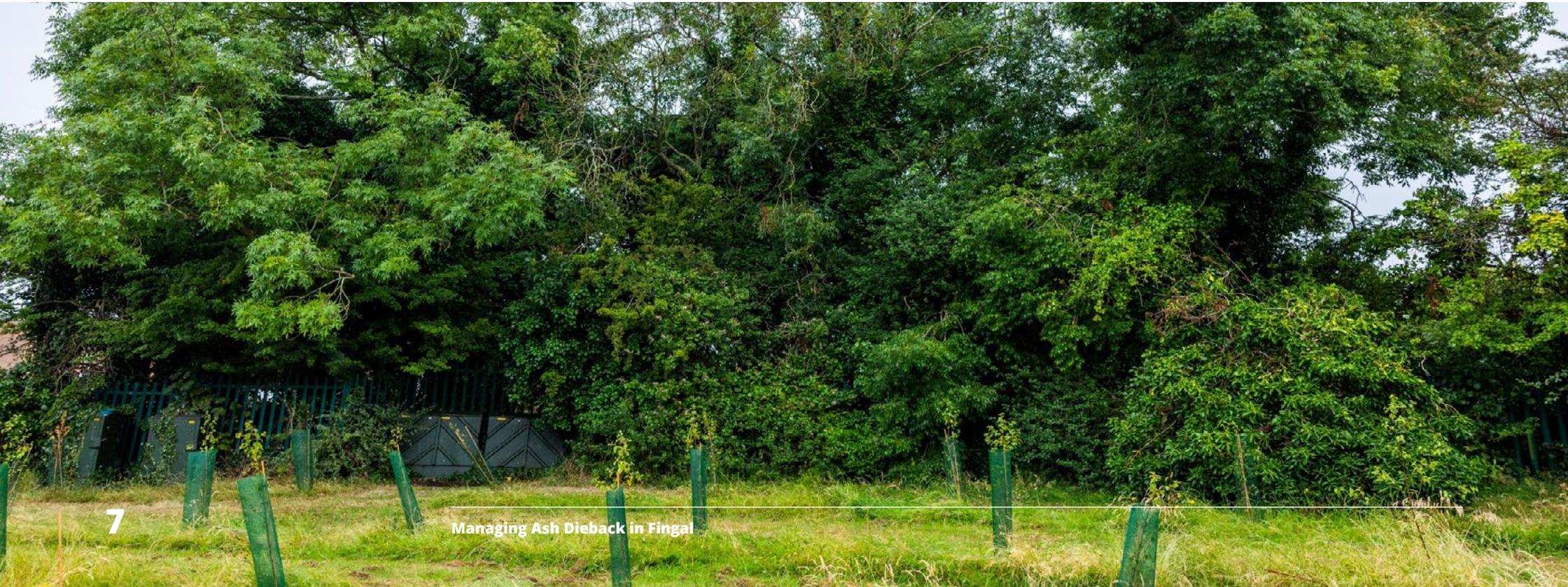
Here are just a small number of options (a non-exhaustive list) of alternative species, many of which are native, suitable to mitigate against ecological loss or to replicate its visual

characteristics, depending on the management objectives of your site:

Populus tremula (aspen), *Alnus glutinosa* (alder), *Betula pendula* & *B. pubescens* (silver & downy birch), *Sorbus aucuparia* (rowan), *Quercus petraea* & *Q. robur* (sessile & common oak);

or, where naturalised or introduced trees are not an issue:

Acer pseudoplatanus (sycamore), *Fagus sylvatica* (beech), *Acer campestre* (field maple), *Juglans regia* & *nigra* (common & black walnut).



A Recommended Proactive Approach to Managing Ash Trees Within Fingal

Based on experience from continental Europe and the UK, the rate of infection of ADB through our Ash population, being compounded by constant annual re-infection, is expected to increase rapidly.

It is predicted that this will result in a relatively sudden decline in the physiological, and more importantly, in the structural condition of affected trees and consequently a large volume of remedial

tree work may be required throughout the Fingal area within a relatively short timeframe. This scenario may have major implications on future funding and resources.

In order to proactively help alleviate and reduce this predicted future volume of tree work, it is recommended that:

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- 1 It is recommended that each operational area within Fingal, establish the number of Ash trees they have, their location (particularly in terms of the level of usage associated with that area (Usage Zone) and to ascertain through appropriate Land Registry searches, whether they are on public land or on private land.**

With ash trees on publicly owned land:

Manage as per Point 3 below. It is also useful and informative to consider how and what these trees contribute to an area either ecologically or from a landscape perspective, as this can guide the selection of an appropriate replacement species.

With ash trees on privately owned land:

'A Guide for Landowners to Managing Roadside Trees' published by DAFM & Tree Council 2021, states... *"Land ownership normally extends to the centre of the road; therefore, it is the landowner – not the local authority – who is responsible for the trees and hedges beside the road"*.

<https://www.gov.ie/en/publication/8fb45-a-guide-for-landowners-to-managing-roadside-trees/>

Where privately owned trees are showing signs of ADB or deemed to be posing a risk to the public, **The Roads Act, 1993, Section 70** states... *"The owner or occupier of land shall take all reasonable steps to ensure that a tree, shrub, hedge or other vegetation on the land is not a hazard or potential hazard to persons using a public road and that it does not obstruct or interfere with the safe use of a public road or the maintenance of a public road"*. [https://www.irishstatutebook.ie/eli/1993/act/14/section/70/enacted/en/html#:~:text=\(2\)%20\(a\)%20The,maintenance%20of%20a%20public%20road.](https://www.irishstatutebook.ie/eli/1993/act/14/section/70/enacted/en/html#:~:text=(2)%20(a)%20The,maintenance%20of%20a%20public%20road.) Fingal Co. Co. has the **discretionary** power to ... *"serve a notice in writing on the owner or occupier of the land on which such tree, shrub, hedge or other vegetation is situated requiring the preservation, felling, cutting, lopping, trimming or removal of such tree, shrub, hedge or other vegetation within the period stated in the notice."*

A Recommended Proactive Approach to Managing Ash Trees Within Fingal

- 2 It is important that, where it is safe to do so, any publicly or privately owned trees demonstrating tolerance be conserved.
- 3 It is recommended that in addition to any current tree safety management being applied to an area, that a visual inspection of ash trees be undertaken (ideally when the trees are in full leaf, ideally mid-June to mid-September), by a suitably competent person using the Arbortrack system. This is in order to:
 - a. Assess the severity of the disease on individual trees.
 - b. Take action as deemed appropriate and,
 - c. Record these assessments and any work carried out.

The table below can be used as a General Guide to help prioritise any necessary remedial tree work.

		Action		
% of crown die-back		Zone 1 (High Usage)	Zone 2 (Medium Usage)	Zone 3 (Low Usage)
	Level 1. Up to 25% of the crown has died back.	Assess condition: Carry out remedial work or remove and/or replace as appropriate.	Assess condition: Carry out remedial work or remove and/or replace as appropriate.	Retain where appropriate
	Level 2. Up to 50% of the crown has died back.	Remove and/or replace.	Assess condition: Carry out remedial work or remove and/or replace as appropriate.	Retain where appropriate
	Level 3. 50% or more of the crown has died back.	Remove and/or replace.	Remove and/or replace.	Retain where appropriate

Managing Health and Safety When Planning Work on Infected Ash Trees.

It must be understood that operations involving the felling or working on any diseased or dead trees, and particularly dead ash trees are both uniquely dangerous and unpredictable. While planning processes and risk management may be evolving to address these issues, it must be made clear to all involved in carrying out this work, that the risk to life is very real and so it is essential that managers engage with, and involve operators in, the planning stages, ensuring that the work and the controls are agreed, understood, effectively communicated, monitored, and reviewed.

In order to manage the risk when dealing with dead or infected ash trees it is essential that whoever is carrying out the work, in-house or contractor, that the specific risks involved are understood and included in the Method Statement and Site-Specific Risk Assessment.

ADB can affect timber strength, particularly where secondary pathogens like honey fungus are present. This is due to the fungi causing a reduction of vessel diameter and fibre length in infected trees. This diminishes the relative proportion of stronger, denser late wood potentially leaving the tree mechanically weaker with an increased risk of uncharacteristic breakages under loading when felling or when trees and branches hit the ground.

Due to the nature of ADB there will usually be a large amount of dead wood in the crown which presents a major hazard to anyone but particularly the chainsaw operator, present in the vicinity of the tree work.



General Guidance for Managing Tree Work Operations on Ash Trees

It is advised that where appropriate:

Mechanical felling is used, where the operator is in a cab with protection against falling objects. If it is not possible to use a machine for felling; that does not immediately justify using a chainsaw operator. If trees cannot be felled by machine or safely by chainsaw, they, where site-specific conditions allow, may need to be left standing. In such cases the site will need to be managed.

Chainsaw felling of diseased trees should only be undertaken if:

- It is impractical for the trees to be felled mechanically; and
- It is appropriate for the trees to be manually felled; and
- Suitable precautions (involving competent operators and appropriate equipment and techniques) can be implemented to prevent injury.

No one should use a chainsaw without the appropriate level of training, experience and personal protective equipment (PPE)

Chainsaws can be hazardous to the operator and to people in their vicinity. In the hands of inexperienced or unqualified people they can be extremely dangerous.

Most tree work involves chainsaws and working at height. Tree felling and tree work at height require trained, skilled and competent operators and it is recommended that only professional contractors are used. If engaging contractors to carry out work on your property, please make sure that they are insured and competent to carry out the work.

Cormac Downey

Fingal Tree Officer

(MArborA, PDArb (RFS) & ND Arb.)

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