



Forest of Fingal

A Tree Strategy for Fingal



Foreword



A message from the Mayor of Fingal

I am delighted to welcome the publication of Fingal County Council's new Tree Strategy 'Forest of Fingal'. The Council is aware of the value of our trees and the Strategy is proof of the Council's continued commitment to one of the most important natural assets we have in the county. Fingal County Council manages approximately 2,000 hectares of Public Open Space, of which a large proportion are heritage landscapes, defined in many respects by woodlands and trees. Many neighbourhood parks in the county also have significant amounts of tree cover. In addition, the Council manages approximately 70,000 street trees which help shape the landscape character of towns and villages across the county. The county's streets host a diverse range of native and ornamental street trees representing fundamental elements of green infrastructure across the county. The Forest of Fingal Tree Strategy will help ensure the economic, social and environmental resilience of the county for generations to come.

Cllr Seána Ó Rodaigh

Mayor of Fingal



A message from the Chief Executive

I would like to express my gratitude to all the stakeholders who contributed to the development of *Forest of Fingal, A Tree Strategy for Fingal*. The approach to urban tree management has evolved significantly in recent years and the newly adopted tree strategy takes account of these changes and innovation. As environmental awareness improves, more and more of us are conscious of the importance of our trees. In addition to their visual amenity value, trees help remove pollutants from our air and water, provide us with oxygen, reduce flooding and erosion as well as making a huge contribution to biodiversity and climate change mitigation and adaptation. The Strategy applies to all trees, woodlands and hedgerows managed by the Council, as well as seeking to ensure due consideration is given to trees in the planning and development process

The strategy is deliberately ambitious and aims to use every opportunity to continually develop a thriving, diverse and sustainable tree population in Fingal, in line with the county's sustainable urban development. The aims and objectives of the Strategy provide clear guidance to enhance the delivery of significant improvements to tree cover in Fingal for the future.

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"To exist as a nation, to prosper as a state, and to live as people, we must have trees."

Theodore Roosevelt

The Forest of Fingal Tree Strategy Vision Statement



To protect and enhance Fingal's trees and woodlands, to maximise both the benefits they offer and the character they bring to the county, to ensure a greener and healthier Fingal for now and future generations'



Contents

Foreword	01	Part 2 - The Value of Trees	24
Acknowledgements	02	2.1 Introduction	25
Part 1 - Setting the Scene	06	2.2 Physical & Mental Health and Wellbeing	26
1.1 Introduction - Why do we need a tree strategy?	07	2.3 Air Quality - 'Breathing Space'	27
1.11 An Historical Perspective	07	2.4 Climate Change	27
1.12 The Role of the Strategy	08	2.5 Water	27
1.13 The Scope of The Strategy	08	2.6 Biodiversity	28
1.14 Tree Strategy Structure	09	2.7 Visual Amenity	28
1.15 Guiding Principles and Values	11	2.8 Economic Benefits	28
1.2 Tree Policies and Guidance	15	2.9 Crime and Public Safety	29
1.21 Global Context	15	2.10 Conclusion	30
1.22 European Union Policies	16	Part 3 - Quality and Quantity of Fingal's Trees	31
1.23 National Legislation and Guidance	16	3.1 Types of Tree Cover	32
1.24 Local Tree Related Policies	17	3.2 Current Canopy Cover - information from the Dublin Tree Canopy Study	32
1.3 Tree Related Issues and Challenges	20	3.3 Number of Street Trees, Woodlands etc.	33
1.31 Climate Change	20	3.4 How Trees Are Currently Managed	33
1.32 Pests and Diseases	20	3.5 Current Breakdown in Terms of Species	34
1.33 Development	21	3.6 Protected Trees (TPOs)	34
1.34 Damage and Vandalism	21	3.7 Tree Trails	34
1.35 Resources / Budget	21		
1.36 Population Increase and Urban Intensification	22		
1.37 Low canopy cover	22		
1.38 After Care of Newly Planted Trees	23		
1.39 Ageing Tree Population and General Mortality	23		
1.40 Conflicts Caused by Trees	23		
1.41 Conclusion	23		

Contents

Part 4 – The Sustainable Management of Trees in Fingal	35	Part 5 – Moving Forward	63
4.1 Management of Trees	36	5.1 Main Aims of the Strategy	64
4.2 Inspections	36	5.11 Annual Net Increase in Tree Canopy Cover	64
4.3 Trees and Risk Management	36	5.12 Have a Thriving, Diverse and Sustainable Tree Population	64
4.4 Reactive and Emergency Works	38	5.13 Maximise the Benefits of Trees as a Valuable Asset and Resource	65
4.5 Tree Planting	38	5.14 Create a Sense of Ownership with the Public, Community Groups, and Stakeholders	65
4.6 Tree Pruning	40	5.2 Objectives of the Strategy	66
4.7 Woodland Management	46	Objective 1: Manage Trees Coherently, Responsibly and Efficiently	66
4.8 Tree Protection	47	Objective 2: Protection and Retention of Existing Trees	66
4.9 Planning and Design Guidelines for Trees and Woodlands	48	Objective 3: Tree Planting and Establishment Initiatives to Ensure a Sustainable Tree Population	66
4.10 Maintaining Fingal’s Trees	52	Objective 4: Community Involvement, Public Engagement and Awareness Building	67
		5.3 The Action Plan	68
		Appendices	73



Part 1 Setting the Scene

Introduction, vision, scope, purpose and context

*'Three hundred years growing,
three hundred years standing, three
hundred years decaying'*

*Peter Collinson (1776) on the life cycle of English
Oak and Sweet Chestnut*

Part 1 Setting the Scene

1.1 Introduction - Why do we need a tree strategy?

The purpose of this document is to define the appropriate strategy for the sustainable management of trees in Fingal over the next ten years 2022–2032.

Fingal is continually changing and will continue to need to accommodate growth. New development needs to provide people with a high-quality environment as well as one that adapts to and mitigates the effects of climate change, and enhances the Council's landscape and its biodiversity.

Trees in Fingal provide a positive impact, particularly on the environment and in climate change mitigation, greenhouse gas emissions and in enhancing the county's green urban infrastructure.

The delivery of a higher level of tree canopy cover will enhance and improve the quality of public streets, open spaces, parklands and waterways of Fingal. It will improve the county's health, welfare and development, providing a county that delights the senses. Fingal County Council has a duty of care and responsibility for the management and maintenance for trees in the public realm – streets, parklands, open spaces and woodland demesnes. The estimated numbers are 70,000 publicly owned or managed trees, and approximately 400 hectares of public woodland. These

numbers also increase annually as the Council takes ownership and charge of additional lands. Trees and woodlands are living and everchanging features integrated throughout both the urban landscape and urban life. They impart a unique range of environmental, social and economic benefits, and have specific requirements regarding their management and care. This is why the overall tree and woodland resource merits its own specific strategy.

1.11 An Historical Perspective

Fingal has a rich history associated with trees and woodland. The origin of many place names is evidence of the prominence of trees and woodlands in the county and their value from earliest times. The following are some interesting examples that illustrate this close association.

- The name Ardgillan is derived from the Irish *Ard Choill*, or 'High Wood'.
- The townland names of Hazelwood and Beechwood in Portmarnock relate to local historic houses.
- In Swords, the townlands of Forest Great, Forest Little and Forestfields refer to the fact that there was once a large forest to the southwest of Swords.
- Skidoo, a townland north of Swords, comes from *Sceach Dubh* or 'Black Bush'.
- Kilsallaghan, a townland near Swords, comes from *Coill Shalchán* or 'Willow Wood'.

Part 1

Setting the Scene

- In Lusk, Bridetree is a townland south of the village. The name refers to a tree associated with a holy well dedicated to Saint Brigid.
- The townland of Rush Demesne used to be known in medieval times as Kenure, which comes from *Cionn lúir* or 'Headland of the Yew'.
- In Dublin 15, the name Clonsilla comes from *Cluain Saileach* which means the 'Meadow of Willows'. There used to be 'Sally Gardens' along the River Road, where locals would source willow for making baskets to sell in Dublin.
- Much of present-day Blanchardstown was once covered by a huge oak forest called the Scaldwood.

1.12 The Role of the Strategy

A tree strategy provides a framework for the management of the local tree population in order to achieve agreed aims and objectives. It helps put trees on an equal footing with other types of infrastructure when it comes to decision making. This provides a clear statement of Fingal's overall tree policies and practices. It is envisaged that a successful Tree Strategy will generate increased funding in future budgets for the entire tree population under the Council's care, which the Council will manage in terms of maintenance, planting, planning and safety management, through a coherent and structured approach. Caring for trees requires careful management and joint work by landowners, local authorities and other stakeholders. The Strategy will be a one stop

shop point of reference for audiences such as elected members, staff, public, developers, and designers.

It is to be used as a framework for all stakeholders who have a role to play in protecting and increasing tree cover across Fingal. It addresses how to enhance the benefits trees can give and how challenges can be met in order to deliver a tree population which will benefit all people who visit, work and live here. Different services may provide for tree provision across the Council's different land use forms over a wide variety of capital projects. To ensure appropriate delivery there must be a coherent approach, which is also covered by this Strategy. Such an approach will reduce future potential maintenance and liability issues. There is also the opportunity to recognise the planting potential inherent in any given site.

1.13 The Scope of The Strategy

Every part of Fingal contributes to the Council's urban forest as a whole: gardens, schools, business and sports campuses, industry, local communities etc. Nearly 60% of urban Fingal's tree canopy cover is on private lands (Dublin Tree Canopy Study, March 2017). It is therefore prudent that the Council encourage the continued planting of trees on private lands through working with community and residents' groups, and providing information and advice.

Part 1 Setting the Scene

Where possible, tools such as Tree Preservation Orders (TPOs), planning control and legislation will also be used to influence the protection and retention of important trees and vegetation on private lands. However, *Forest of Fingal* primarily covers those trees, woodlands, and hedgerows within the public realm of the county for which the Council is solely responsible. The main focus is urban Fingal, where the ecosystem services and public good of trees is most in need.

1.14 Tree Strategy Structure

Forest of Fingal proposes a series of 12 Policies: these are referenced throughout the document as well as in Appendix I.

The vision of the Tree Strategy outlined below is supported by a range of Guiding Principles, Aims, Objectives and, finally, Actions which give effect to the Strategy. The diagram below illustrates the relationship between these elements of the Strategy.



Guiding Principles

Values and main drivers underpinning and guiding our future decisions

Aims

What we must achieve in the long term

Objectives

Targets and goals to set in order to reach our aims

Action Plan

Specific, measurable tasks and methodologies

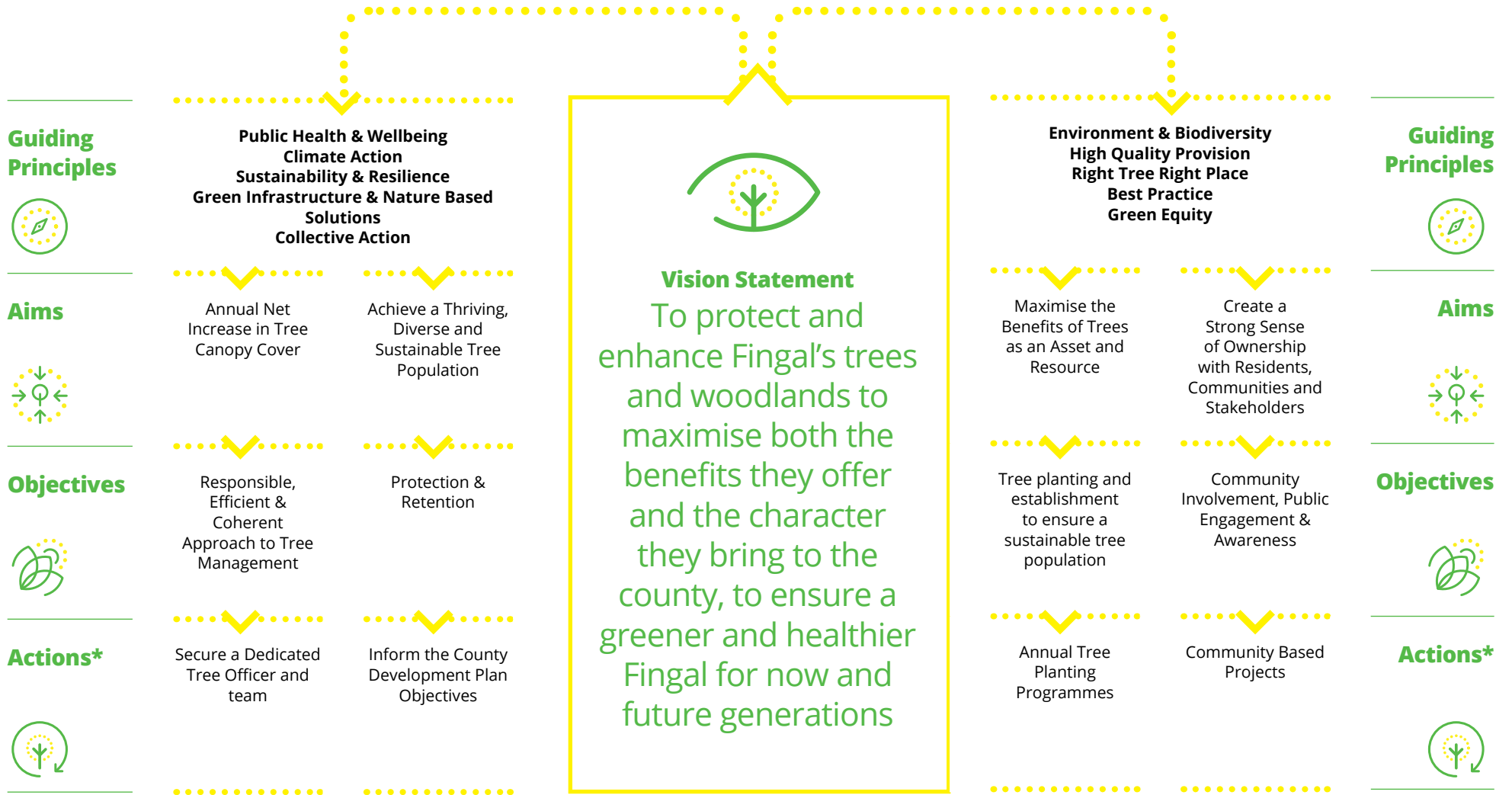


Policy Statements

A series of 12 Statements are outlined throughout the text of the document as well as Appendix I

Part 1 Setting the Scene

The diagram below illustrates the structure of the Strategy to achieve the vision over a ten year lifespan and beyond.



* Full list of Actions are included in Part 5 of this document

Part 1

Setting the Scene

1.15 Guiding Principles and Values

There is a wealth of information and knowledge today informing how trees contribute positively in providing a resilient future. The approach of the Strategy is derived from the following underpinning values upon which trees have a direct impact.

Trees Improve Health, Wellbeing and Quality of Life

Trees and a connection to nature enhance the lives of the many residents, workers and visitors of Fingal, and will continue to do so in terms of both physical and mental health. Studies show that spending as little as two hours per week in nature, including trees, is associated with good health and wellbeing (White et al., 2019).

Trees for Climate Action

Trees, forests and woodlands play a large role in the global solution to mitigate and adapt to the effects of climate change. (See Section 2.4)

Trees for a Sustainable and Resilient Fingal

Ireland's cities and infrastructure are vulnerable to Climate Change, and the contribution of trees as part of Green Urban Infrastructure and nature-based solutions is vital in adapting to its effects. The intrinsic value trees have in terms of these nature-based solutions can play a fundamental role for a resilient county going forward.

Trees for the Environment & Biodiversity

Trees, woodlands and hedgerows provide an invaluable habitat for biodiversity. Urban trees are vitally important for nature. They may act as the only link to habitats beyond the urban boundaries and they provide food and shelter for wildlife within the urban forest, such as birds, bats, and many important insects like bees and other pollinators.

High Quality Tree Provision

The ten-year approach to this Strategy will lean largely on how this very important Principle is followed, with 'Quality' taking the driving seat in guiding decisions. The intrinsic value of trees is that they increase the quality of any environment, particularly urban streets and public open spaces where other Green Infrastructure opportunities and elements may be lacking. Quality, in terms of planning, selection, planting and aftercare, will take priority over the quantity of trees planted in a given area, or time period.

Part 1 Setting the Scene

'It is the policy of the Council to ensure all development is of a high quality design and promotes the achievement of accessible, safe and sustainable built and natural environments, which reflect the special character and heritage of the County and its varied townscapes and landscapes'

FCC Development Plan 2017 – 2023

Right tree in the right place

This is possibly the most important Principle in the approach to the lifetime of the Tree Strategy. Careful selection and planning will go into species selection for a given location, always keeping in mind where trees will grow to their full potential, provide maximum benefits and at the same time avoid future conflict.

The role trees play in terms of Green Infrastructure and Nature-Based Solutions

Due to their multi-functionality, trees are invaluable as Green Infrastructure and delivering Nature Based Solutions (see Appendix II Glossary of Terms for definitions).

Best Practice

Throughout the implementation of this Strategy and for its lifetime the Council will ensure that the best practice will be to the fore in all deliverables, from planning and selection, to planting and aftercare, ensuring a tree population that not merely survives, but thrives.

Green Equity

The Council understands that every neighbourhood and community in Fingal is entitled to the access and use of green spaces, trees and nature in their environment regardless of address. The Council will seek to continually improve on tree provision in this regard. Trees are not a luxury, but a vital element of urban infrastructure and an environmental asset for public good.

Collective Action

If everybody planted one tree in their garden or on their land, this would go a long way towards achieving the Council's vision of increasing the *Forest of Fingal* and securing its future. Over the lifetime of the Strategy, the Council will continue to encourage, support and promote private tree planting initiatives.

Part 1

Setting the Scene

Conclusion

Trees provide a direct link to our past and are fundamental to our future. Provision and care for the county's trees will be given so that the county is in a better state when it is handed over to future generations. According to Census 2016, Fingal has the youngest population in the country with more than one in four under the age of 15 and an average age of 34. A high quality and renewable tree population will contribute greatly to achieving a long lived, thriving tree population, while planting the right tree in the right place will allow new trees to flourish and grow to their full potential. The fulfilment of this Strategy will provide Fingal with a thriving and well managed urban forest resource.

"A society grows great when old men plant trees whose shade they know they will never sit in."

Greek Proverb





Part 1 Setting the Scene

1.2 Tree Policies and Guidance

1.2.1 Global Context: Policy decisions taken at a global level can have significant implications for what we do locally

Paris Climate Change Agreement

Members of the United Nations Framework Convention on Climate Change signed the Paris Agreement in 2016. Its central aim is to strengthen the global response to the threat of climate change by keeping a global average temperature rise this century well below 2 degrees Celsius above pre-industrial levels, and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels.

Trees, forests and green infrastructure contribute by carbon sequestration, offsetting the emissions needed to meet the Paris Agreement targets which must be in conjunction with decarbonisation of key industry sectors. Increased tree planting represents an excellent and practical example of a nature-based solution which will contribute to this process.

IPCC Report

In August 2021, the Intergovernmental Panel on Climate Change published their Sixth Assessment Report. The most serious conclusion is that the window of time to stabilise our climate is closing. For Ireland, the report predicts more intense heatwaves and increased flooding as temperatures rise.

UN Sustainable Development Goals

The Sustainable Development Goals are a universal call to action to end poverty, protect the planet and improve the lives and prospects of everyone,

everywhere. The 17 Goals were adopted by all UN Member States including Ireland in 2015, as part of the 2030 Agenda for Sustainable Development which set out a 15-year plan to achieve the Goals.

The goals are voluntary and address the global challenges we face, including those related to inequality, climate change, and environmental degradation. With fewer than ten years until the target date of 2030, the benefits trees provide can play a key role in meeting and endorsing these goals as a nature-based solution to climate change, biodiversity loss, pollution and much more. The implementation of the Fingal Tree Strategy can make a positive contribution to the fulfilment of the following Sustainable Development Goals:

SUSTAINABLE DEVELOPMENT GOALS

3 GOOD HEALTH AND WELL-BEING



Goal 3 - Ensure healthy lives and promote well-being for all at all ages.

11 SUSTAINABLE CITIES AND COMMUNITIES



Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable.

13 CLIMATE ACTION



Goal 13 - Take urgent action to combat climate change and its impacts.

15 LIFE ON LAND



Goal 15 - Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Part 1 Setting the Scene

For further information on how a thriving tree population can help to deliver these goals and more, see Part 2 of this document, Value of Trees.

The United Nations World Commission on Environment and Development (WCED) in its 1987 report 'Our Common Future' defines sustainable development as:

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

1.22 European Union Policies

The following EU policies are relevant in the context of this Tree Strategy:

European Green Deal

On 11th December 2019, The European Commission announced this deal to transform the EU into the first Climate Neutral Continent by 2050. One initiative of this is the new EU Forest Strategy for 2030, which was set up in order to achieve biodiversity objectives and greenhouse gas emission reduction targets.

EU Plant Health Directive

In acting to control plant diseases, Ireland like all other EU Member States must comply with EU plant health legislation.

1.23 National Legislation and Guidance

The information provided below is intended as a guide and does not constitute legal advice.

Climate Action and Low Carbon Development (Amendment) Act 2021

Signed into law in the summer of 2021, Ireland is now on a legally binding path to net-zero emissions, to transition to a climate resilient and biodiversity rich country by no later than 2050, and to a 51% reduction in emissions by the end of this decade.

The Wildlife Act 1976 (as amended 2000)

is the principle legislation protecting nesting birds in Ireland. The Act makes it an offence to kill, injure or take any wild bird and to take, damage or destroy any nest that is either in use or being built. In general terms, bird nesting in Ireland can be expected to take place between March 1st and August 31st and it is an offence to destroy vegetation on uncultivated land between these dates.



The Council will carry out tree pruning and felling outside of the nesting period as far as reasonably practicable. An example of an exception to this would be on the grounds of health and safety concerns. The National Parks and Wildlife Service will be informed in these instances.

Part 1 Setting the Scene

Forestry Act 2014

A Tree Felling Licence granted by the Minister for Agriculture, Food and the Marine provides authority under the Forestry Act 2014 to fell or otherwise remove a tree or trees and to thin a forest for silvicultural reasons.

The Planning & Development Acts 2000 to 2011

Local authorities have a mandatory responsibility to include objectives in their Development Plans relating to the preserving of amenities such as trees. This empowers the planning authority to make provision for tree preservation by establishing a Tree Preservation Order (TPO). No tree covered by a TPO may be felled, topped, lopped or destroyed without the consent of the planning authority.

Occupier's Liability Act 1995

As landowners, the Council is responsible for the safety and maintenance of trees on public land. This is also true for private tree owners and trees within their ownership.

Environmental Protection Agency - An Integrated Assessment of the State of Ireland's Environment 2020

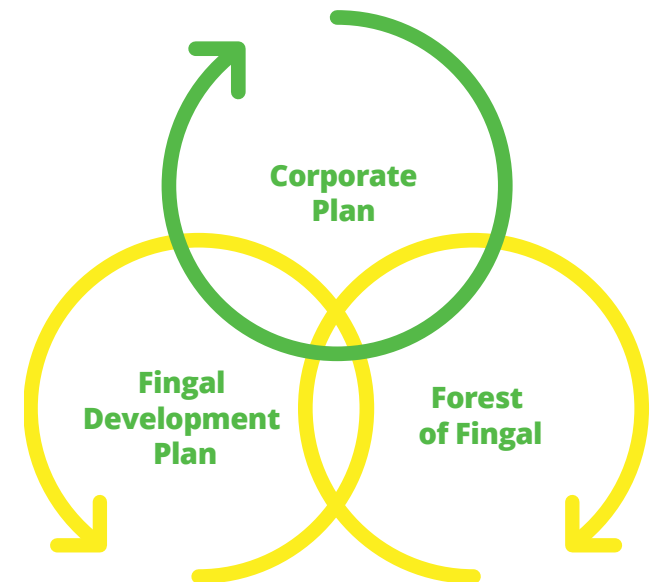
The evidence from this assessment reveals that the overall quality of Ireland's environment is not what it should be, and the outlook is not optimistic unless we

accelerate the implementation of solutions across all sectors and society.

1.24 Local Tree Related Policies

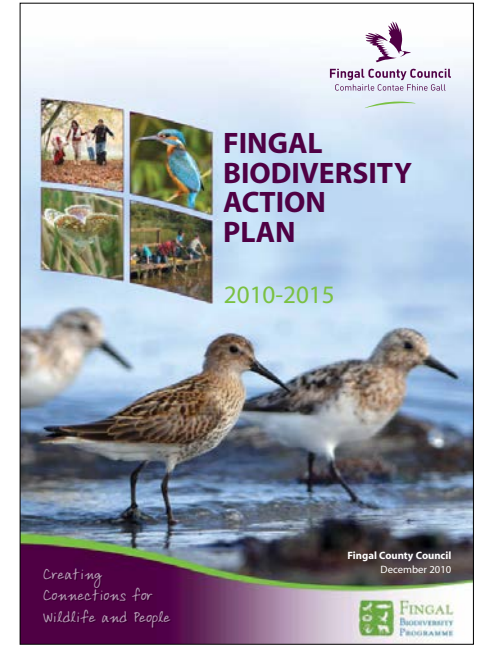
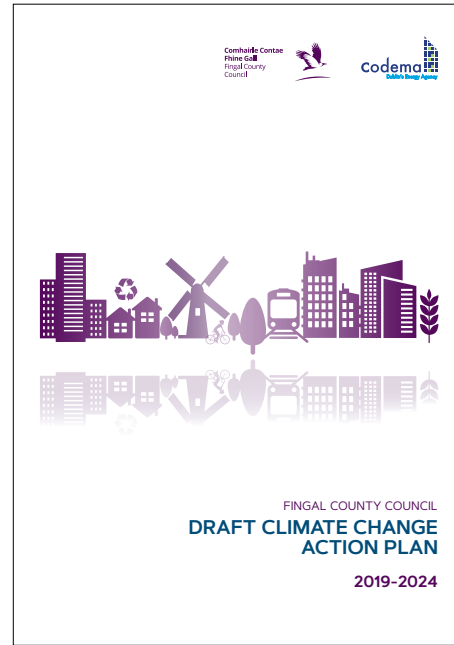
Forest of Fingal is a strategic document aimed at supporting a range of initiatives such as tackling Climate Change, boosting biodiversity and enhancing quality of life for residents, workers and visitors of the county. These local policies include:

- **Corporate Plan 2019–2024**
- **Fingal Development Plan 2017–2023**
- **Keeping it Green – An Open Space Strategy for Fingal**
- **Climate Change Action Plan 2019–2024**
- **Fingal Biodiversity Action Plan**



Part 1

Setting the Scene





Part 1 Setting the Scene

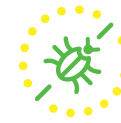
1.3 Tree Related Issues and Challenges



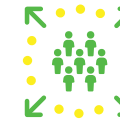
Low Tree Canopy Cover



Climate Change



Pests and Diseases



Increasing Population and Urbanisation Pressures

While trees enhance the urban environment, the growing conditions are often hostile to good tree growth. Trees face challenges from the day they are planted, through their establishment to growth and maturity. Many factors threaten not only the tree's survival but its ability to reach its full potential and deliver its many benefits. To achieve the aims of this Strategy, the current and future distribution, health and suitability of the Council's tree stock will be considered and managed. The following section discusses the main threats to all trees within Fingal, both public and private.

1.31 Climate Change

It is likely that Climate Change is impacting our trees and woodlands due to predicted increases in extreme weather, such as high winds, heavy rainfall and periods of drought. These effects will probably be seen in declining tree health in some species or increased difficulty establishing young trees. As Climate Change progresses, some mature

trees will be lost through both direct causes, such as windthrow due to gales, or indirectly as weather conditions increase stress and thereby decrease their tolerance to pests and diseases. Other factors such as increased winter rainfall may lead to water logging, which can affect tree roots and stability. If our woodlands are affected, this has a knock-on effect upon the plants and animals found there.

1.32 Pests and Diseases


Various insects and diseases can affect trees, reducing both their health and value, and therefore the sustainability of trees. As most pests generally tend to have a specific range of tree hosts the potential damage that can be caused by each pest will differ. A strong diversity of tree species is therefore prudent to reduce the risk to our trees' health and the possible loss posed by pests and diseases. Present in Fingal at the time of writing is Ash dieback, *Chalara fraxinea*, which affects and poses a serious threat to

Part 1

Setting the Scene

this native species. Ash trees are a prominent feature in woodlands, hedgerows, and parklands nationwide. In terms of planting, careful selection of tree stock from reputable suppliers is also key in lowering the risk.

Climate Change increases the range and threat of pests and diseases and trees' susceptibility. Early detection, vigilance and raising awareness is a prudent approach.

**Policy 2**

The Council will review and implement biosecurity measures and protocols to keep tree pests and diseases under control within Fingal.

1.33 Development

Changes of land use and development can put severe pressure on trees. Demolition and construction cause damage in a variety of ways. This may be through direct loss to accommodate development, a reduction in space for retained trees' future growth and spread, direct damage due to compaction of soil, severing roots or branches or from spill of chemicals or fire. Infrastructure and service installation can also be damaging due to open trenching. For new trees, the presence of pre-existing or new utility

provision must be carefully considered if future conflict is to be avoided.

The Council considers tree planting an integral part of urban design and requires that substantial tree pit provision be given equal consideration as other infrastructure.

1.34 Damage and Vandalism

Damage to trees, both deliberate and through lack of knowledge, is common. Criminal damage includes cutting down or lopping/topping, snapping saplings, setting fires beneath trees and various other attempts to kill Council trees. Some damage to trees is through a lack of understanding, e.g. failing to maintain trees or leaving on stakes, ties, metal grilles etc., or through the fixing of decorative lights which are not loosened on a regular basis. Damage related to highway use and maintenance causes compaction of rooting areas, while branches can be torn by high vehicles, the installation of driveways can cut across verges, and contamination can be caused by salt in grit or hydrocarbons. Enforcement action will be taken against anyone who damages Council trees as a measure of protection.

1.35 Resources / Budget

A dedicated annual tree management budget is lacking and an action of this Strategy is to seek the specific provision of this resource.

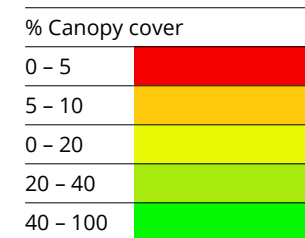
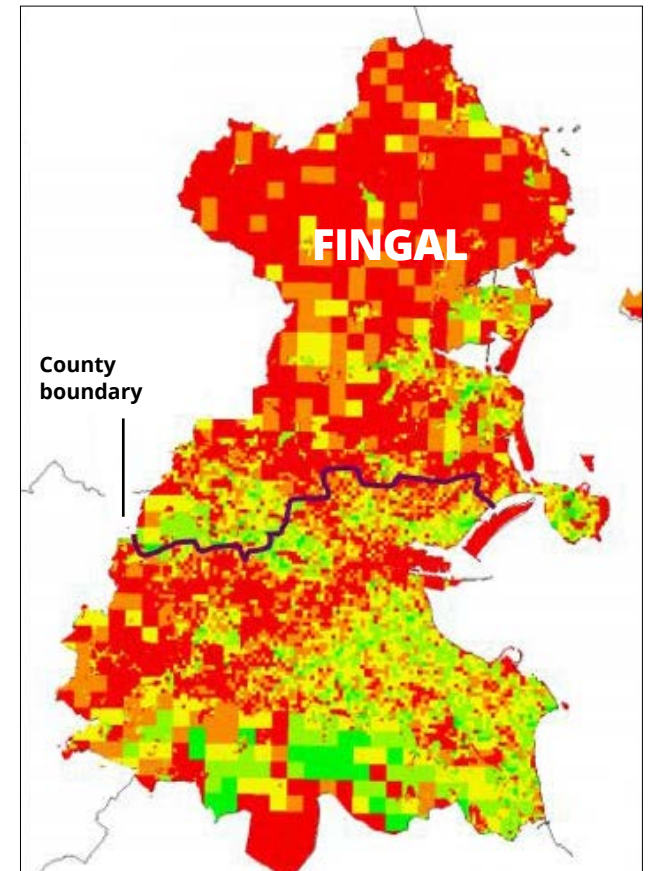
Part 1 Setting the Scene

1.36 Population Increase and Urban Intensification

Between 2011 and 2016, the population of Fingal rose by 8%, the highest increase nationally. The population of Fingal reached 296,020, the third highest in the county. In Ireland, 63% of the population lives in urban areas. In Europe, currently over 70% of the population lives in cities, and this is expected to increase to over 80% by 2050. Responding to this population increase inevitably requires the provision of new open space amenities including urban trees.

1.37 Low Canopy Cover

According to the Dublin Tree Canopy Study (undertaken and published by the UCD School of Geography in 2017), the total tree canopy cover of Fingal stands at 6.5%, the lowest of the four Dublin local authorities and well below the European city average of 15%. Although this is partly due to different land uses the study does highlight a significant deficiency in the valuable natural resource provided by trees, and this must be addressed.



Clearly visible from this Dublin Canopy Study image that there is a deficiency of tree cover in the county

Part 1

Setting the Scene

1.38 After Care of Newly Planted Trees

Typically, around half of newly planted urban trees do not live beyond ten years. Incorrect pruning and failure to remove tree stakes and tree ties can negatively affect tree growth. The Council will plant the number of trees that can be managed with the resources available using a qualitative approach to selection, planting, monitoring and maintenance to ensure their survival and longevity.

1.39 Ageing Tree Population and General Mortality

Even as new trees are planted many of the Council's existing trees are nearing the end of their lives. Fingal will continue to manage the ageing population through regular assessments to determine which trees need to be maintained or removed, and by planning when, how and with what tree species they will be replaced.

1.40 Conflicts Caused by Trees

Occasionally trees may cause or be perceived as causing problems in an urban environment due to issues such as shading, blocking views or apparent interference with underground services or structures. In most cases these issues can be effectively managed. There are variations between species and varieties in the probability and severity of problems occurring and, in this regard, it is essential to select the right tree for the rightplace.

1.41 Conclusion

In summary, urban trees strive to survive in the most challenging of environments, both immediately after planting and throughout their lives. They compete against utility networks, road works and a variety of pollutants such as car fumes, salt and de-icing agents on footpaths and roadside margins. Physical damage and disturbance to trees roots are frequent consequences of road and footpath reconstruction or trenching works. Vehicular damage, particularly by skips and high-sided vehicles, and vandalism can damage trees causing death or disfigurement resulting in misshapen or weakened trees. There is also an increasing trend by car users to park their vehicles on verges causing rutting and soil compaction, which causes damage to tree roots as well as leaving the verge in an unsightly and unsafe condition. Despite these challenges, urban trees can and do survive, albeit with a more limited life expectancy and with varying degrees of success. However, the above challenges demonstrate the need for a strategic approach to tree management, planting and maintenance.



Policy 3

The Council plans to promote the importance of trees as part of the urban environment affording them a similar status to other urban infrastructure.

Part 2

Value of Trees

Why are trees important?

Part 2

Value of Trees

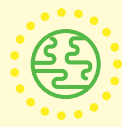
2.1 Introduction

There is now a growing wealth of knowledge and evidence for the wide range of services and value that trees bring to urban environments. While emphasis was once more typically placed on the costs associated with the presence of trees (e.g. leaf removal, ongoing maintenance etc.) it is now more commonly known how trees establish a sense of place and provide healthy environments as well as climate change adaptation and mitigation.



Human Benefits

- Improved health, wellbeing and mental health
- Play & Learning
- Shade & Comfort
- Relaxation
- Tourism
- Sense of Place



Environmental Benefits

- Air pollution removal
- Carbon storage
- Urban cooling
- Wind abatement
- Stormwater control
- Healthy soil
- Water filtration



Ecological & Biodiversity Benefits

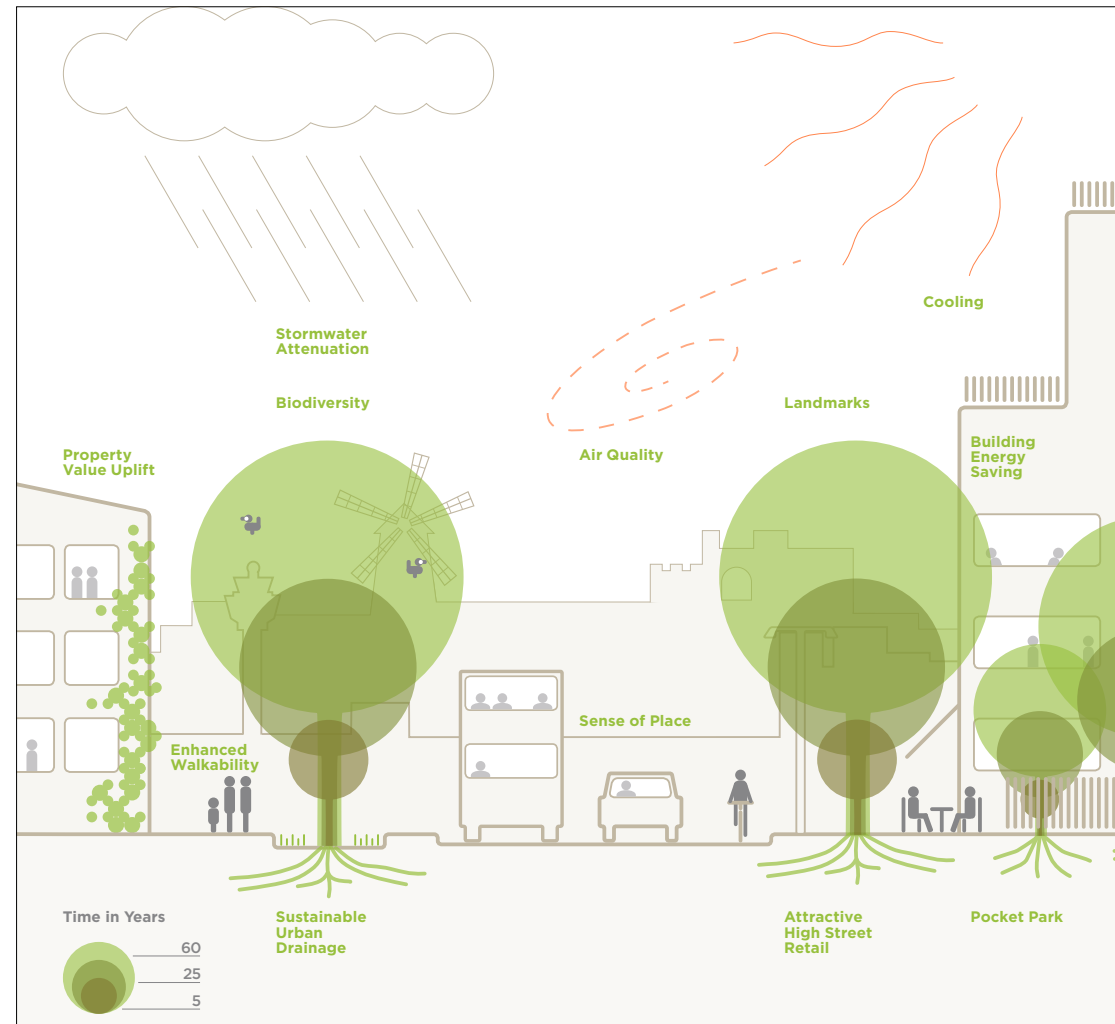
- Improved health of ecosystems
- Pollination
- Buffer for pollution
- Improved species' balance & diversity



Economic Benefits

- Increased land and property value
- Energy savings
- Tourism
- Less financial burden on health & emergency services
- Increased productivity & creativity

Part 2 Value of Trees



Trees in the Townscape (2012). © Trees and Design Action Group Trust, Trees in the Townscape (2012)

2.2 Physical & Mental Health and Wellbeing

At the time of writing, access to trees and green spaces has never been as relevant and important as in the Covid-19 global pandemic. Trees have a positive effect on health through the provision of shade, outdoor recreation amenity and clean air.

Trees reduce stress and give a greater quality of life. Seasonal changes, flowers, colours and aromas can stimulate positive emotions. Studies from over 30 years ago have shown trees speed up recovery times from illness and reduce the need for medication (Ulrich, Robert 1984).

Part 2

Value of Trees

Trees also reduce exposure to harmful UV rays. The Japanese term *shinrin-yoku* ('forest bathing') emerged in the 1980s as a physiological and psychological exercise. A 2016 report (Ulmer, J.M, et al, 2016) indicated that more neighbourhood tree cover, independent from green space access, was related to better overall health.

2.3 Air Quality - 'Breathing Space'

Everyone deserves to breath clean air and clean air is a human right. According to the World Health Organisation (WHO), air pollution is the greatest environmental health risk we face, yet nine out of every ten people worldwide do not breath safe air. WHO estimates that around 7 million people die every year from exposure to fine particles in polluted air. There is evidence that urban trees remove large amounts of air pollution and improve urban air quality, particularly in the urban environment (Nowak et al 2006).

'Nine out of ten people worldwide do not breath safe air'

World Health Organisation

2.4 Climate Change

Trees, especially large ones, can store significant amounts of carbon as they grow, temporarily reducing CO₂ in the atmosphere (Nowak et al. 2013).

Cities throughout the world, including some in Europe, are increasingly experiencing summer heatwaves. Trees work like pumps: through evapotranspiration they breath out into the atmosphere the water they receive, which is a highly effective mechanism for lowering air temperatures.

A naturally growing diverse woodland can store carbon at a far greater capacity than monocultural plantations for production. Increasing tree cover in Fingal will contribute to a reduction in atmospheric carbon.

2.5 Water

In urban areas, the natural hydrological cycle carried out by vegetation is disturbed by the increase in impervious surfaces, which is why urban trees and forests are vitally important. Trees help to reduce localised flooding by intercepting rainfall and maintaining soil permeability. They reduce water run-off in extreme rain events, taking the pressure off the urban drainage system. The canopies themselves retain large volumes of rainwater, delaying the time it takes to hit the ground and cause run-off.

As well as flood relief, trees can also enhance water quality and control soil erosion with their roots.

Part 2

Value of Trees

2.6 Biodiversity

Trees and their associated ecosystems provide habitats for wildlife: tree and timber with cavities are especially valuable for animals such as bats and birds.

Trees connect habitats by providing green links between parks and open spaces allowing opportunities for wildlife to travel from place to place to access new habitats. Trees provide food for wildlife including nectar for bees and other insects. There is a significant range of pollinator-friendly trees which can be maintained and planted to mitigate the current decline in bees and pollinator insects.

2.7 Visual Amenity

Trees bring a sense of place and maturity to new developments, while larger species help to create a more human scale to old and existing townscapes.

Trees are also used effectively to screen unsightly structures or views and soften the built environment.

Trees can form an integral part of the design of new schemes whether using existing tree cover or through the planting of new trees as part of the scheme.

2.8 Economic Benefits

Research (Morales 1980) shows that the presence of trees can increase the value of residential and commercial properties by 5%–18%. In retail areas, trees positively affect people's behaviour by attracting consumers to visit. Trees provide shade, shelter in wind and a regulation of local air temperature thus reducing energy and heating costs. Planting areas of woodland into amenity grassland can reduce the cost of maintenance by at least 60% (Trees or Turf, Woodland Trust 2011). The urban forest has an impact on a town's image and the business climate it provides to attract inward investment. Studies have proven that production in the workplace is higher in environments with tree cover while other studies have proven that trees have financial benefits as opposed to a cost liability for local authorities, such as their contribution to SuDS (Sustainable Urban Drainage).

Trees provide ecosystem services, removing airborne pollutants, storing carbon and diverting storm water runoff away from local sewer systems. The Council plans to conduct research into the extent this occurs in the county and to put a value as to the avoided treatment costs annually.

Part 2

Value of Trees

Research in the US, comparing the costs and benefits of trees, has shown a positive return ranging from 1.7 to 2.4 times the expenditure of the tree depending on the context. Urban trees are not only essential to quality of life, they also offer good value for money.

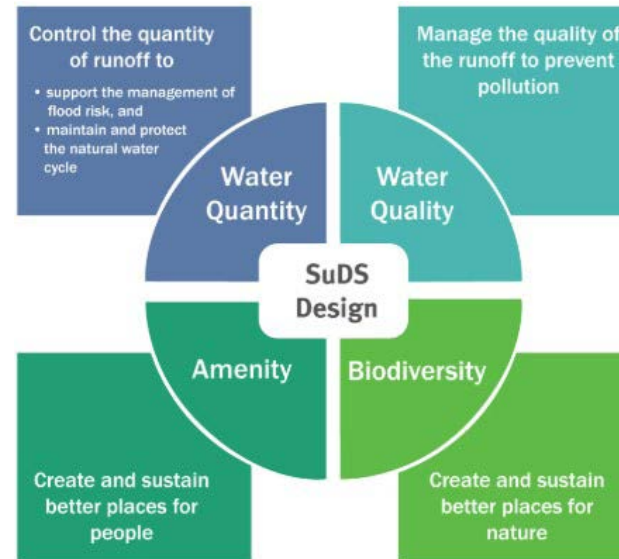


Image depicting the four pillars in successful SuDS design. The SuDS Manual, CIRIA, 2015.

A single mature tree, if planted under the Principle of right tree, right place can arguably be defined as a successful SuDS element in its own right, due to its invaluable benefits which fit under the four main pillars illustrated above.

2.9 Crime and Public Safety

There is evidence to suggest that in urban areas the presence of trees can deter crime and anti-social behaviour. Fewer crimes were reported in locations with greater amounts of vegetation (Kuo and Sullivan 2001b). Donovan and Prestemon (2012) also reported a decreased incidence of crime when street trees were present, suggesting that the presence of trees was perceived as indicating a more cared for environment. Similarly, Burden (2006) has suggested that trees improve security due to better use of these spaces and hence increased surveillance.

Roadside trees have been shown to have a marked impact on road safety, while properly positioned trees have been shown to reduce roadside accidents and incidents of road rage. Roads lined with trees affect speed perception, resulting in considerably lower speeds than on adjacent open roads (Burden 2006). Roadside trees also create a safer environment for pedestrians by providing a visual and physical barrier between pedestrians and road users.

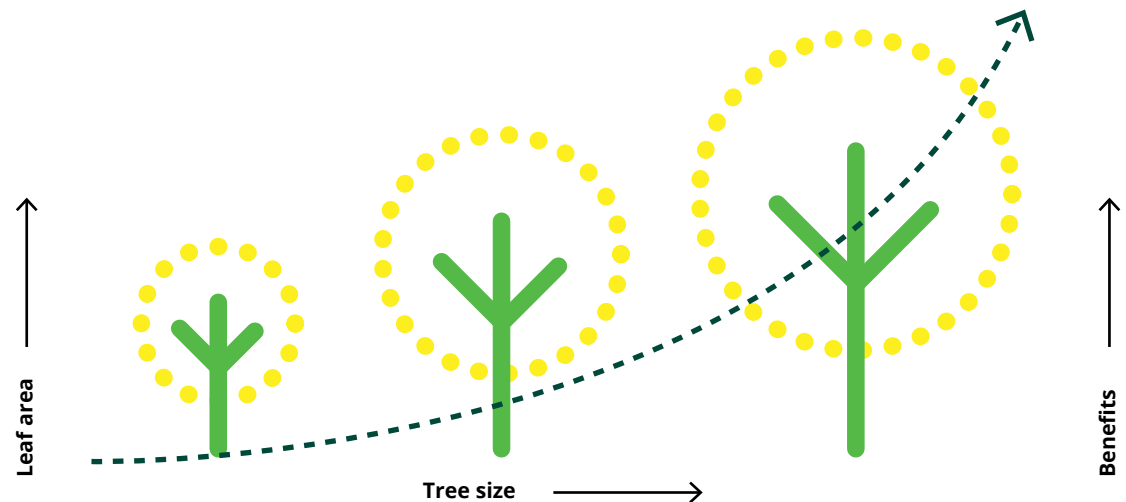
Part 2 Value of Trees

2.10 Conclusion

Depending on the tree species in question it takes between 15 and 40 years for a tree to grow a sufficiently large canopy to deliver meaningful aesthetic, air pollution removal, rainwater management and other benefits. Size does matter. Trees are the only part of urban infrastructure that can appreciate in value while the rest generally depreciate.

Urban trees do, however, have a finite useful life expectancy. The Council will therefore seek to retain, protect and care for as many of these trees as reasonably practicable to optimise their benefits. Further details follow in the policy and management sections of this Strategy. The benefits highlighted above are non-exhaustive and interconnected: for example, the health benefits associated with contact to nature will in turn provide economic benefits with reduced costs to our healthcare system.

Extensive studies along with modern technology and software, such as iTree, can now provide hard numbers in terms of putting a figure on the environmental services that trees provide. Consideration in planning, design and provision of future trees can maximise these benefits for many years to come.



An aerial photograph of a lush green park. A wide, light-colored path winds through the landscape, which is filled with vibrant green grass and numerous trees of various sizes and shades of green. The scene is bright and clear, suggesting a sunny day.

Part 3 Quality and Quantity of Fingal's Trees

An overview of Trees in Fingal

Part 3

Quality and Quantity of Fingal's Trees

3.1 Types of Tree Cover

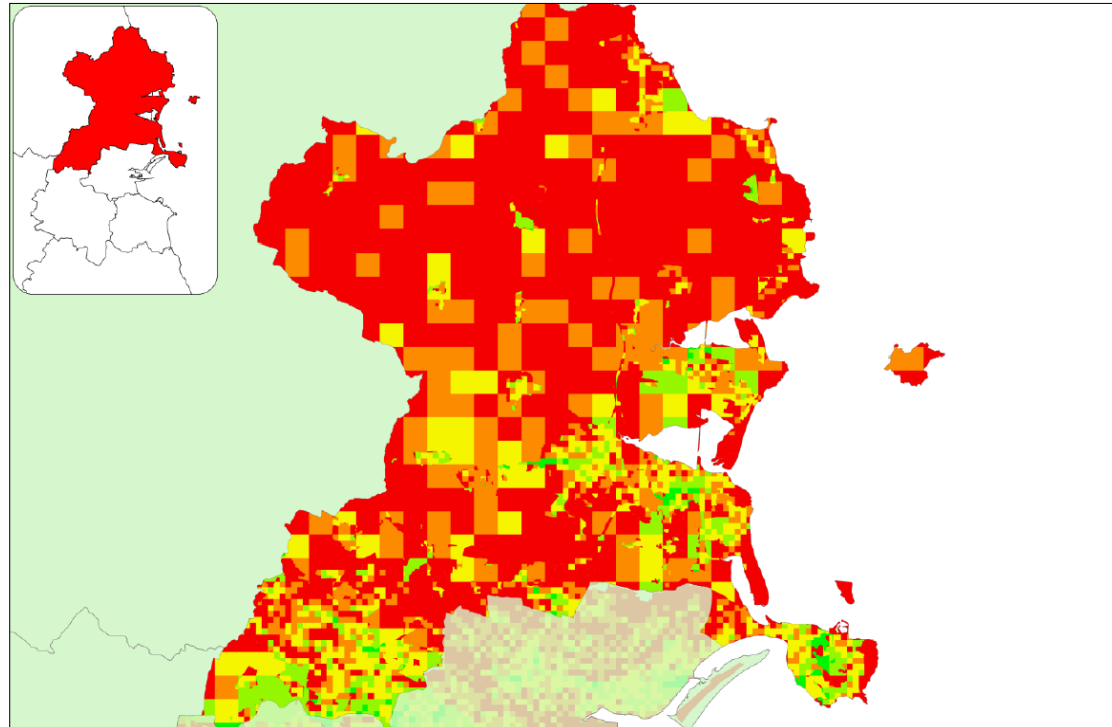
The variety of tree and vegetation cover within the urban forest of Fingal is vast depending on the variety of land use – mainly streets, parks, open spaces, woodlands, river embankments, motorways, campuses, and hedgerows. Most of the total tree canopy cover within urban Fingal is privately owned. None-the-less, the primary focus of this Strategy, and the actions recommended within, is the public realm for which Fingal County Council has responsibility.

3.2 Current Canopy Cover - information from the Dublin Tree Canopy Study

The 'Dublin Tree Canopy Study' undertaken by the School of Geography, University College Dublin, and published in March 2017, provides an analysis of data from an aerial survey of the tree cover for the Greater Dublin Region across the lands managed by the four Dublin local authorities and the Office of Public Works. The survey data is analysed in terms of the environmental services (biodiversity, air quality, water management) provided by the tree cover across the county.

The report indicates that *'A tree canopy cover of 15% would make Dublin comparable to other European cities. Currently cover across County Dublin is 10% but there are large variations between local authorities'*. With a predominantly rural landcover of 74%, Fingal is the least 'leafy' in terms of proportion of canopy cover, although due to its large size it has the second largest amount of canopy in terms of area. Fingal's rural areas are used for large scale and productive agriculture activities, which may make afforestation incentives less effective compared to South Dublin County Council or Dún Laoghaire-Rathdown County Council. Somewhat counterintuitively, Fingal's continued and fast paced urbanisation provides the authority with an opportunity to increase canopy by mandating street tree planting in the design of any new developments through the planning process. At present, Fingal has 1,506 km of road suggesting space for a maximum of 75,328 street trees. In terms of areas to be prioritised, approximately two thirds of urban Fingal is below 10% canopy cover, meaning most areas of Fingal would benefit from additional plantings. That being said, the more northerly towns in the county, i.e. Lusk, Rush, Donabate, Balbriggan and Skerries, could be in particular need of additional tree planting.

Part 3 Quality and Quantity of Fingal's Trees



% Canopy cover

0 - 5	Red
5 - 10	Orange
10 - 20	Yellow
20 - 40	Light Green
40 - 100	Dark Green

Tree canopy cover across Fingal, which has predominantly rural landcover (74%) is estimated at 6.5%

Canopy cover breakdown in each of the four Dublin local authorities

Local Authority	Area (ha)	Canopy (ha)	Percent canopy	Percent urban
DCC	11,772	1,197	10.2	97.1
DLR	12,660	2,398	18.9	59.8
Fingal	45,806	2,996	6.5	25.7
SDCC	22,350	3,872	17.3	42.2
Total	92,588	9,284	10.0	43.4

3.3 Number of Street Trees, Woodlands etc.

Fingal has 70,000 Council-owned / managed trees 400 hectares of woodland which is approximately 20% of the publicly owned open space within the county.

3.4 How Trees Are Currently Managed

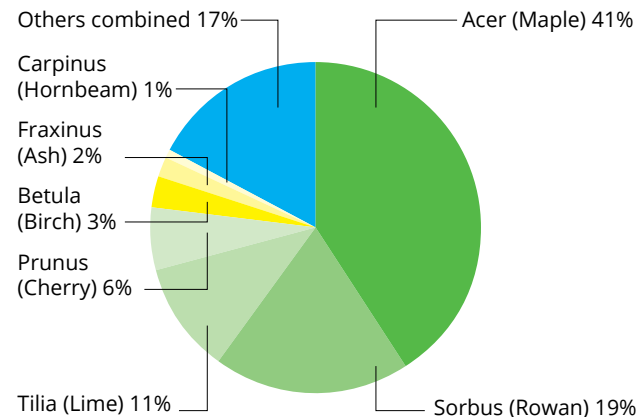
All the street trees within Fingal County Council are currently being resurveyed and uploaded onto a new tree management software system. All recommendations within this survey will assist with scheduling

Part 3 Quality and Quantity of Fingal's Trees

and prioritising future works. This is to assist with working to a planned schedule rather than a reactive works schedule. Residents may still ring or email with concerns or requests for tree works, but these requests must be assessed and prioritised in line with the proposed works as outlined in Section 4.6 Tree Pruning.

3.5 Current Breakdown in Terms of Species

According to the Council's inventory of trees, over 70% of the population comprises three genus types: Acer - Maple (41%); Sorbus – Rowan (19%); and Tilia – Lime (11%). This highlights the need to greatly diversify the tree stock. It could prove costly to depend on such high quantities of similar genus and species should future outbreaks of pests and diseases occur. The recommended approach for a resilient tree population in terms of pest and disease control, as well as climate change adaptability, is to diversify the tree stock.



The Council will use and promote the use of a wide variety of trees in terms of family, genus and species in future planting programmes and projects.

3.6 Protected Trees (TPOs)

Currently there are three locations with trees under Tree Protection Orders (TPOs) in Fingal: The Vicarage, Church Road, Swords; Santry Demesne; and Brackenstown/Brazil, Swords.

3.7 Tree Trails

Fingal currently has Tree Trails in public parks in Ardgillan Demesne, and Glebe Park in Balrothery. The development of Tree Trails is a good way of introducing the public to tree identification as well as increasing appreciation of the Council's trees.





Part 4 The Sustainable Management of Trees in Fingal

Management & Maintenance of Trees in Fingal

Part 4

The Sustainable Management of Trees in Fingal

4.1 Management of Trees

In all references below, the standards of decisions and tree work to be undertaken by both the Council's own and contracted arboricultural teams are carried out in accordance with current relevant Ireland and EU legislation, British Standards, and general industry accepted standards and guidance.

4.2 Inspections

Knowing the local tree resource is a prerequisite to its effective management. Surveys of the main tree populations, therefore, are to be conducted, particularly trees in the public realm (e.g. streets and open spaces). Creating an evidence base will provide strategic understanding of Fingal's tree cover, enable effective monitoring of its evolution, and facilitate the best proactive management approach of its trees. Tree inspection is a vital way of monitoring and recording the condition of the Council's tree population.

4.3 Trees and Risk Management

The Council recognises that trees are living organisms that naturally lose branches or fall. The overall risk to human safety, however, is low. The Council currently and proactively manages the potential risk through its tree maintenance programme, which has been upgraded using new tree management software (See Action 1.4).

Guidance to make reasonable decisions about tree management needs to be backed up by reliable data on the actual level of risk posed by falling trees. The UK-based National Tree Safety Group commissioned the Centre for Decision Analysis and Risk Management at Middlesex University to quantify the risk of fatal and non-fatal injuries from falling or fallen trees and branches to the UK public. The research identified 64 deaths during the 10 years after 1 January 1999. With a UK population of roughly 60 million, this leads to an overall estimated risk of about one death in 10 million people per year from falling or fallen trees and branches.

Regarding non-fatal injuries in the UK, the number of accident and emergency cases (A&E) attributable to being struck by trees (about 55 a year) is exceedingly small compared with the roughly 2.9 million leisure-related A&E cases per year: footballs (262,000), children's swings (10,900) and even wheelie bins (2,200) are involved in many more incidents.

Part 4

The Sustainable Management of Trees in Fingal

Table 1: Produced by the National Tree Safety Group UK in 2011, using the Health and Safety Executive's *Reducing Risks, protecting people*, to compare risks associated with fallen trees.

Cause of death	Annual risk	Basis of risk and source
Cancer	1 in 387	England and Wales 1999
Injury and poisoning	1 in 3,137	UK 1999
All types of accidents and other external causes	1 in 4,064	UK 1999
All forms of road accident	1 in 16,800	UK 1999
Lung cancer from radon in dwellings	1 in 29,000	England 1996
Gas incident (fire, explosion or carbon monoxide poisoning)	1 in 1,510,000	GB 1994/95-1998/99
From trees	1 in 10,000,000 or less if high wind incidents are excluded	This study
From lightning	1 in 18,700,000	England and Wales 1995-99



Policy 4

In balancing tree risks and benefits the Council will:

1. Manage the risk of significant injury or property damage to levels that are as low as reasonably practicable.
2. Operate a system of proactive and reactive tree inspections.
3. Maintain a detailed record of trees and inspections.
4. Ensure competent individuals carry out tree inspections.
5. Ensure work identified through the inspection programme is undertaken by suitably qualified staff or competent contractors within the appropriate timeframe.

Part 4

The Sustainable Management of Trees in Fingal

4.4 Reactive and Emergency Works

There will always be a need to carry out reactive works, although the quantity of this work should reduce over time as the proactive work is embedded. Reactive works are carried out to manage risks to the public. They include felling dead trees, removing hazardous branches, and clearing obstructions to sightlines and infrastructure. Reactive works are carried out in response to enquiries from other Council services, residents and Elected Members.

The Council has an emergency plan for severe weather conditions and has tree maintenance crews on call 24 hours a day for any tree related emergencies.

4.5 Tree Planting

The Council aspires to increase the county's urban tree cover, which currently stands at 6.5% tree canopy cover, and is working to increase this annually. In principle, planting is one straightforward way to achieve this.

"The best time to plant a tree was 20 years ago. The second best time is right now."

Chinese Proverb

Types of Tree Planting:

- Annual tree planting programme. Realistic and sensible targets to be set in place.
- Joint interest opportunities with stakeholders such as community groups and NGOs.
- Private tree planting. Continue and improve on tree giveaways and advice.
- Planning conditions, replacement, integrated tree pits with SuDS.
- Tree planting in new developments.

Urban Tree Planting in Hard Landscapes

Such environments are among the most challenging for tree survival and establishment. Specialised integrated tree pits, incorporating SuDS, will reduce risk of pavement lift in the future and they are particularly suited to key urban centres and main streets.

Planting will be targeted where need is greatest and the Principle of the 'right tree in the right place' and quality will take precedence over quantity. Planting a tree is an investment and the returns are all the greater when the longevity of the tree is maximised. Securing quality nursery stock and adequate rooting environments should be made a priority. Quality aftercare will be prioritised.

The planting standards will also refer to BS8545:2014 *Trees: From nursery to independence in the landscape – Recommendations*

Part 4 The Sustainable Management of Trees in Fingal



Policy 5

The Principle of planting the 'right tree in the right place' will apply for all new tree planting.

Native vs Non-native (Exotic) Species Selection

While the selection, planting and protection of native species is highly desirable there is a large palette of exotic species available that can thrive in challenging urban environments. Exotic trees may be selected for planting in urban centres, which will provide an opportunity to diversify the urban forest. Such diversity will gradually decrease to native selection transitioning from urban to peri-urban and eventually through to Fingal's rural geographical areas. Native species are generally more appropriate in natural locations than in man-made and urbanised areas.



London Plane trees which feature on Swords Main Street are a common sight in cities - hence their name - and for good reason as they have a proven track record of disease and storm resistance and can thrive in harsh urban environments.



Urban Environment
Predominantly non-native



Peri Urban Environment
Native / Non Native



Rural Environment
Predominantly native



Part 4 The Sustainable Management of Trees in Fingal



Policy 6

Following instances of tree removal, and subject to availability of space and resources, replacement trees will correspond to the size of the removed tree.

4.6 Tree Pruning

What is proposed in relation to maintenance is a hierarchal approach with urban centres and main streets receiving the greatest resourcing in terms of inspection and maintenance.

Pruning

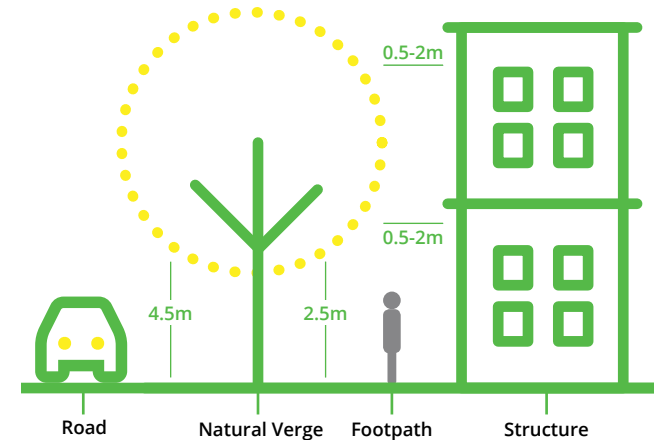
All pruning works will be carried out in accordance with best practice guidelines and in particular by reference to the BS3998:2010 *Tree Work – Recommendations*



Policy 7

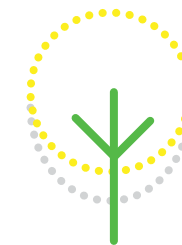
As well as pruning for arboriculture reasons, the following will be the general standard for (street)trees in the public realm:

- **Footpaths:** 2.5m overhead clearance
- **Roads:** 4.5m overhead clearance
- **Buildings:** 0.5 - 2m clearance



Typical standards to be achieved with urban street trees within the public realm

Methods of Pruning and typical scenarios within the hierarchy approach to tree maintenance:



Crown Lift or Crown Raising

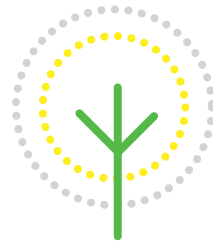
Crown lifting is the removal of the lowest branches and/or preparing of lower branches for future removal. Good practice

dictates crown lifting should not normally include the removal of large branches growing directly from the trunk as this can cause large wounds which may become extensively decayed leading to further long term problems or more short term

Part 4

The Sustainable Management of Trees in Fingal

biomechanical instability. Crown lifting on older, mature trees should be avoided or restricted to secondary branches or shortening of primary branches rather than the whole removal wherever possible. Crown lifting is an effective method of increasing light transmission to areas closer to the tree or to enable access under the crown, but it should be restricted to less than 15% of the live crown height and leave the crown at least two thirds of the total height of the tree. Crown lifting should be specified with reference to a fixed point, e.g. 'crown lift to give 5.5m clearance above ground level'.

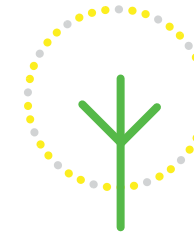


Crown Reduction

This is the reduction in height and/or spread of the crown (the foliage bearing portions) of a tree. Crown reduction may be used to reduce mechanical stress on

individual branches or the whole tree. It may also be used to make the tree more suited to its immediate environment or to reduce the effects of shading and light loss, etc. The final result should retain the main framework of the crown and, therefore, a significant proportion of the leaf bearing structure while leaving a similar, if smaller outline. This may not necessarily achieve symmetry for its own sake. Crown reduction cuts should be as small as possible and in general not exceed 100mm diameter

unless there is an overriding need to do so. Reductions should be specified by actual measurements where possible and reflect the finished result, but may also refer to lengths of parts to be removed to aid clarity, e.g. 'crown reduce in height by 2.0m and lateral spread by 1.0m, all round, to finished crown dimensions of 18m in height by 11m in spread (all measurements approximate)'. Not all species are suitable for this treatment and crown reduction should not be confused with 'topping', an indiscriminate and harmful treatment.



Crown Thin

Crown thinning is the removal of a portion of smaller/tertiary branches, usually at the outer crown, to produce a uniform

density of foliage around an evenly spaced branch structure. It is usually confined to broad-leaved species. Crown thinning does not alter the overall size or shape of the tree. Material should be removed systematically throughout the tree, should not exceed the stated percentage and not more than 30% overall. Common reasons for crown thinning are to allow more light to pass through the tree, reduce wind resistance, reduce weight (but this does not necessarily reduce leverage on the structure) and is rarely a once-only operation, particularly on species that are known to produce large amounts of epicormic growth.



Part 4

The Sustainable Management of Trees in Fingal

Formative Pruning

Minor yet essential pruning during the early years of a tree's growth to establish the desired form and/or to correct defects or weaknesses that may affect structure in later life.

Building Clearance

Pruning branches away from buildings for reasons of avoiding future conflict to, ideally, 2m with a minimum standard of 0.5m.

Pruning Methods according to the Hierarchal Approach

Main Streets and Urban Centres	All methods of pruning as required
---------------------------------------	------------------------------------

Housing Estates and Residential Areas	<ul style="list-style-type: none">• Building Clearance• Crown Raising• Formative pruning
--	--

If these methods are not sufficient to address requirements, it may warrant removal. Each individual tree is assessed on a case by case basis.

Removal of Trees



Policy 8

The Council aims to ensure that every tree felled is replaced to guarantee a renewable tree stock in Fingal for future generations

Across Fingal's public realm, approximately 1,000 trees are removed and replaced every year. Trees are removed only when necessary and as a last resort. The Council aims to ensure, subject to available budget resources, that every tree felled should be replaced to ensure that over the years, the County retains its tree stock for future generations. It is not always practical or prudent, however, to replace a tree in the same location or with the same species that was previously planted.

The main criteria for tree removal are:

Tree is dead, dying or is considered hazardous due to its poor structural or biological condition. Hazardous conditions may exist above and/or below ground and may include significant root, trunk or crown decay, split trunks and crotches, and large dead limbs.

Part 4 The Sustainable Management of Trees in Fingal

The tree has declined beyond the point of recovery and is no longer meeting the functional or aesthetic requirements of a street tree. Typically, a tree with 50 percent or less of its foliage remaining would meet this criterion.

Fatally diseased trees (eg. Ash dieback, Fireblight Disease) may be removed before they reach the primary threshold in order to prevent the spread of disease to healthy trees.

To allow space for development of nearby trees that may be more desirable for retention

To allow space for new planting

To make way for any approved engineering or building works when unavoidable construction work will immediately compromise the stability or viability of the tree.

Tree proven to be causing significant structural damage that cannot be reasonably addressed by an alternative solution and proactive tree management has had no mitigating effect.

When a tree is located in close proximity to a public lighting column and the viability of the tree would be compromised by a requirement for ongoing maintenance to maintain the effectiveness of the adjoining streetlight.



Policy 9

The Council will not remove trees without adequate justification. When felling work is proposed, the reasons for the work will be documented and recorded.

Tree removal or pruning will not be undertaken in the following instances:

Trees are perceived to be too large.

Satellite dish TV reception is interrupted.

Sunlight may be blocked from reaching properties or gardens.

Views are obstructed.

Seasonal or naturally occurring events happen, e.g. falling leaves, fruit, seeds or berries, honeydew sap, bird droppings, pollen allergies.

Insects or other non-hazardous wildlife are present.

To facilitate the widening of driveways unless it is acknowledged in the planning application.

Due to cracked private boundary walls unless evidence is provided. (Structural engineers report).

Clarification of each of these points can be found in Section 4.10 Maintaining Fingal's Trees.

Part 4

The Sustainable Management of Trees in Fingal

Fingal County Council will retain records of all tree work carried out and monitor the nature and extent of this.

Requests for Tree Maintenance Services

Requests will result in an inspection within 28 days. The Council will inspect trees that are dead, damaged, diseased or causing a physical obstruction. The Council is not able to give specific timeframes of any work ordered as a result. Some work can only be done in the winter months outside the growing and nesting season. This will also be planned by area and by level of need.

The following guidelines intend to show in what circumstances the Council inspects trees:

Cases where the Council will inspect trees

- Potentially hazardous trees
- Trees affecting public access, highway safety and visibility
- Reported tree damage to road surfaces
- Reported tree damage to buildings
- Overhanging tree branches where a physical obstruction is caused, such as preventing access
- Trees hit by vehicles
- Trees physically touching properties
- Trees touching streetlights

Tree Stumps

Where a tree is felled by the Council, it is not always possible to remove the stump immediately. Removal may be delayed for a period until a sufficient quantity builds up for their removal to be economical. A short stump of about 1m high will be left in the intervening period so as not to constitute a trip hazard.

Where a stump has been removed, sufficient time needs to elapse to allow breakdown of residual underground root material before supporting the planting of a new tree in its place, if the location is deemed suitable.

Cases where the Council cannot inspect trees

- Loss of light to a property or garden
- Solar panels
- Tree debris - fruits, nuts, seeds, leaves or sap
- Bird fouling or bird nesting
- Satellite, TV and phone reception
- Pollens and allergies
- Blocked drains and gutters
- Height or size of the tree

Part 4

The Sustainable Management of Trees in Fingal

Depending on the diameter of the original tree this could take between 3-5 years for the timber to decompose sufficiently.

In some circumstances the Council may leave stumps and standing monoliths of dead timber where practicable for biodiversity reasons, typically in parks and large open spaces. Deadwood supports a vast array of invertebrates which in turn are a source of food for birds and bats etc.



4.7 Woodland Management

The Council intends to manage significant existing woodlands and to plan for the creation of new areas of woodland. Woodlands help to meet local needs for recreation, as well as delivering environmental services (water quality enhancement, soil contamination removal, carbon sink) and economic returns (energy from wood could contribute to the local economy). One of the actions proposed in this Strategy is to develop a plan to manage approximately 400 hectares of woodlands in Fingal, ensuring sustainability and biodiversity for the future.

Some of the main considerations of woodland management planning relate to:

- Invasive species
- Species diversity
- Recreation and amenity
- Natural regeneration
- Ecosystem services
- Woodland by-products such as timber and biofuels
- Biodiversity
- Climate change
- Habitat connectivity
- Expansion of existing woodlands
- Pests and diseases
- Public Health and Safety
- Woodland management training

Part 4 The Sustainable Management of Trees in Fingal

4.8 Tree Protection

Tree protection measures are essential when construction takes place near existing trees. This will avoid damage, particularly to roots, which can lead to failure and death of the trees, often several years later. The most important element for a tree's survival is the parts that cannot be seen: its roots.

During their lifetime, trees will be vulnerable to disturbance, injury, environmental changes, pests and diseases. Construction work often exerts pressures on existing trees, as do changes in their immediate environment following the construction. A tree that has taken many decades to reach maturity can be damaged irreparably in a few minutes by actions that might be unwitting, negligent or wilful. The early provision of physical protection from damage is therefore critical.

Root damage inflicted by excavation or construction work is responsible for many premature tree failures, leading to increased safety risks as the damaged tree undergoes early decline. Tree root damage can be avoided through wider adoption of tree protection measures on construction sites and the more systematic use of trenchless or root safe excavation techniques routinely employed in other countries. These techniques need to be better documented and promoted. The Council will continue



to raise awareness among designers, developers, private individuals etc.

The Council will use its powers to ensure that where it is complementary to the objectives of the County Development Plan, and other planning objectives, there is maximum retention of trees on new development sites.

Existing trees will be retained and protected in accordance with best practice and specifically with the document BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*

Part 4

The Sustainable Management of Trees in Fingal

4.9 Planning and Design Guidelines for Trees and Woodlands

4.9.1 Protected Trees (Tree Preservation Orders)

Tree Preservation Orders (TPOs) may be made under Section 205 of the Planning & Development Act 2000. A TPO can be made if it appears to the planning authority to be desirable and appropriate in the interest of amenity or the environment and can apply to a tree, trees, group of trees or woodland.

Currently there are three locations where trees are covered by a Tree Preservation Order in Fingal. These are The Vicarage, Church Road, Swords, Santry Demesne, and Brackenstown/Brazil, Swords.

4.9.2 Protection of existing trees on a development site

Where a proposed development retains existing trees on-site, a satisfactory Arboricultural Impact Assessment must be submitted in accordance with BS5837:2012 *Trees in relation to design, demolition and construction - Recommendations*. This assessment will analyse the potential impact on the retained trees. Where a proposed development would have an impact on trees, particularly where it would impinge on root protection areas of trees - both within and outside the development site - a site specific Arboricultural Method Statement should be submitted. The statement should demonstrate that mitigation measures are in

place to ensure the development works do not harm the existing tree.

4.9.3 Tree Bond

A tree bond will be placed on trees which are to be protected as part of a site's planning permission. A tree valuation system, such as CAVAT (Capital Asset Value of Amenity Trees) or equivalent, will be used to place a monetary value on the tree bond.

4.9.4 Tree Removal

- Development requiring the loss of a protected tree or hedgerow (including trees and hedgerows in High Amenity Areas and SAAO; aged and veteran trees and trees classified as being of categories A or B in value and Townland boundaries) will only be permitted where:
 - a) the removal of a tree or hedgerow will enhance the survival or growth of other protected trees or hedgerows;
 - b) it would allow for a substantially improved overall approach to the design and landscaping of the development that would outweigh the loss of any tree or hedgerow.
- Where the loss of trees is accepted in these circumstances, developers will be required to provide at least equivalent replacement in terms of canopy cover. This should be provided on-site unless the developer can show exceptional circumstances which would justify replacement provision elsewhere.

Part 4

The Sustainable Management of Trees in Fingal

- Where permission is granted for the removal of street trees / vegetation on public property, in order to facilitate the construction of a driveway/ entrance, road widening etc., the applicant will be conditioned to pay a financial contribution for replacement tree planting in the vicinity of this development. This is to ensure that there is no net loss of tree canopy cover in the area.

4.9.5 Maintaining and Increasing Tree Canopy Cover

It is the Council's objective to ensure tree cover is maintained and increased within Fingal.

- In order to achieve this in relation to new developments, a minimum of 15% green area (open spaces, street trees, green roofs & walls) in public and communal spaces will be required as part of all Local Area Plans.
- Major development proposals with a frontage onto a new or existing road of more than ten metres will only be permitted where they provide for the planting and maintenance of street trees of appropriate species at intervals appropriate to the site, except where the site's location clearly requires a building-dominated design approach that would be prejudiced by the inclusion of street trees.

4.9.6 Tree Planting Within New Developments

Street Tree Planting Plans

- 4.9.61 A street tree planting plan must be supplied for developments over 50 units. Constructed tree pits will be required where trees are planted in hard surfaces and grass verges less than 1.2 metres wide.
- 4.9.62 These plans will include the location of each constructed tree pit of a minimum rooting volume of 16 cubic metres, lamp standards and underground services.
- 4.9.63 The location of tree planting in proximity to built features including footpaths must refer to BS5837:2012 *Trees in relation to design, demolition and construction - Recommendations*
- 4.9.64 The width of grass verges where tree planting is proposed must be labelled on landscape plans.
- 4.9.65 A minimum separation distance of 7 metres shall be maintained between lamp standards and new street tree planting.



Part 4

The Sustainable Management of Trees in Fingal

4.9.7 Tree Selection for New Housing Developments

Landscape Architects will be directed to the Council's list of recommended trees and to TDAG's (Trees and Design Action Group) Tree Selection Guide for tree selection in their landscape plans. These will include the use of native species of Irish provenance or those grown on a nursery in Ireland for at least one year, in order to maintain best practice Plant Health routines.



To correct imbalances or over reliance on certain genera or species in the existing stock, species and varieties will be selected to meet the requirements of the 30:20:10 rule - no more than 30% of trees from any one family, 20% from a single genus or 10% from a single species.

4.9.8 Driveways and New Entrances

The Council will not normally support either the removal of a tree or cutting of a tree's roots for the construction of vehicle crossovers and/or alterations to residential driveway access, unless the tree is of limited life expectancy or is small enough to be relocated elsewhere. Exceptional circumstances will be considered by the

Council on a case by case basis. Planning permission is required if a property owner wishes to widen an existing access or create a new access to the public road. The Council should be consulted if the grass verge or any roadside trees are affected in order to get advice on the acceptability of a specific proposal and other technical requirements before any planning application is made.

A minimum clearance of 3 metres or 10 times the diameter of the tree trunk at its base, whichever is greater, must be provided between the trunk of any street tree and the edge of the crossover, unless the Council determines otherwise.

The Council's Operations Department should also be consulted if the roadside kerb is to be dished and a roadside concrete apron laid to provide vehicle access to car parking spaces in front of a house. As part of the application assessment the Council will apply a standard Tree Amenity Valuation formula to fully determine the costs associated with the removal and or retention of specific trees associated with the development activity. If the condition of the street tree is declining and its life expectancy is short, tree removal may be considered to allow for the installation of a new driveway crossover. Removal and replacement of trees will be at the cost to the applicant and a new tree will be replanted as close as possible to the original tree.

Part 4

The Sustainable Management of Trees in Fingal

The design of vehicular entrances that impact on adjacent trees will need to be considered to avoid conflicts with street trees. Where a conflict is unavoidable and where a tree, located on-street, requires removal to facilitate a new or widened vehicular entrance, and cannot be conveniently relocated within the public domain, then a financial contribution will be required in lieu.

4.10 Maintaining Fingal's Trees

While trees are overwhelmingly beneficial, issues may occasionally arise which require attention. Problems such as damage to structures, branch, sap and leaf drop, pollen and shade can range from minor inconvenience to serious consequences. Many of the problems can be resolved or mitigated through appropriate management and maintenance. If there is a concern that a tree has caused damage to a nearby wall or underground structure, it is common to suggest that the tree should be removed, but this is not always required. It can be less expensive to repair the structure using slightly different methods which allow the tree to be retained and so save the felling and reinstatement cost. Due to the issues trees can cause it is important to have clear guidance on what action can be taken in various scenarios and the need to balance problems against benefits. Guidance on how decisions will be reached is presented below. It is the Council's aim to protect, manage and maintain trees in public areas and in a safe

manner throughout the county. Where new tree planting is proposed it is essential to ensure a good design which takes all factors into account and ensures the right tree in the right place.

4.10.1 Trip Hazard / Pavement Lift

The Council will undertake measures to repair or make safe an unacceptable trip hazard on a public footpath or road caused by the growth of a Council-owned tree. Typically a level difference of 10mm or greater will constitute a trip hazard and, in such situations, the deformation will be assessed by the Council.

The roots of trees exploit soil in various ways dependent on species, local conditions and history of site disturbance, especially in the close confines of the urban setting. Damage occurs most commonly close to the tree and will diminish rapidly with distance. Where a hazard exists and is attributable to tree roots engineering options will be explored before root pruning or tree removal is undertaken.

It is often possible to repair paths to take account of adjacent trees and tree roots. Where roots protrude, pruning may be appropriate or the path can be reconstructed around the tree using flexible material such as asphalt to provide a smooth surface or using reinforced concrete or other engineering solutions.

Part 4

The Sustainable Management of Trees in Fingal

Where damage is caused to paths or footpaths, the Council will only consider tree removal where there is a risk to public health, which cannot otherwise be mitigated. This will usually be the last resort, except in circumstances where the tree is of low value or easily replaced. In such instances removal may be the most appropriate solution. The Council will seek to explore engineering options to reduce trip hazards, before root pruning or tree removal, through internal consultation within the Operations Department. The Council will develop a protocol for resolving issues where tree roots under hard surfacing conflict with public areas. The Operations Department should be notified about trip hazards as tree roots may not be the cause of the problem.

4.10.2 Trees and the Built Environment

The Council will not normally consider removal of a tree where structural damage can be repaired or reasonably resolved by appropriate engineering solutions.

Trees in an urban environment may cause concerns for people in relation to infrastructure, which creates pressures for trees to be pruned or felled. The perceived threat of damage by tree roots is sometimes a worry people have about trees near to buildings or built structures. Much of this concern is unwarranted as most trees growing near buildings cause no damage. Tree

roots are also unlikely to directly penetrate sound footings. Lightly loaded structures with inadequate foundations, such as a light boundary wall, may be affected by pressure exerted by tree roots or trunks, but in such cases trees are not the primary cause of damage. The Council recognises that trees under its ownership/management may be implicated in damage to nearby built structures but it is also aware that trees are not always the causative agent. Investigations should be carried out before blame is apportioned.

Some reasons for structural failure are inadequate foundation design, general structural failure, poor quality construction, nearby excavations or major works to adjacent properties. In circumstances where structural damage can be repaired or reasonably resolved by appropriate engineering solutions, the Council will not normally consider removal of a tree, except where the tree is structurally or physiologically in poor condition. Property owners will, at their own expense, be expected to provide evidence from an appropriately qualified professional, such as an arborist or engineer, that a tree is causing or has caused damage to their property such as a boundary wall. All reasonable engineering alternatives must be explored before felling will be considered. Where evidence is provided which demonstrates a

Part 4

The Sustainable Management of Trees in Fingal

Council-owned tree is the cause of damage, the Council will take appropriate action on a case by case basis.

4.10.3 Trees and Utilities

Trees themselves very rarely break or damage drains or underground services. Tree roots found in a drain are usually symptomatic of an underlying problem requiring repair of the broken pipe. The Council's presumption is that the appropriate way to deal with tree root blockage of drains is to ensure that the drains are watertight. Any concerns about the condition of public drains should be reported to Irish Water.

Utility companies have certain legal rights to carry out works to public or privately owned trees to address health and safety problems and to maintain a clearance between trees and their apparatus. This may sometimes involve the loss of trees or the removal of large parts of a tree, which can leave a misshapen and unbalanced crown, thereby reducing the amenity value of the tree. Excavation works near to street trees brings considerable potential disturbance within the root zone of trees, often reducing their stability and long-term viability.

Where works to trees are necessary as a result of proximity or conflict, the Council will encourage utility operators to adopt the most appropriate long term solution, giving consideration to tree health, local tree cover

and visual amenity. Utility companies must consult with the Operations Department of Fingal County Council in advance of any pruning, trenching or other works likely to affect Council-owned trees. The Council will develop protocols for dealing with trees and utilities in consultation with the main utility providers and adhere to the recommendations of the current NJUG (UK National Joint Utilities Group) Guidelines for The Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, as well as BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations*.

Where residents are concerned about trees conflicting with utility wires, the relevant utility company will be the first point of contact.

4.10.4 Trees Overhanging Neighbouring Properties / Roots Encroaching into Gardens / Driveways

The Council will not generally prune trees that overhang neighbouring properties unless the trees are dangerous or are causing significant nuisance.

The Council has no legal obligation to prune overhanging trees unless they are causing direct damage to an adjacent property or are imminently dangerous. This reflects the Council's position as an owner of thousands of trees and the resources

Part 4

The Sustainable Management of Trees in Fingal

available. Given that many thousands of Council trees overhang boundaries, it is not an effective use of resources to prune every overhanging limb.

Tree roots in gardens are a natural occurrence and root presence is unlikely to be affected by tree pruning. However, situations where a tree is genuinely generating root encroachment to an exceptional, severe and unreasonable degree are dealt with on a case by case basis. Adjacent landowners are entitled to prune encroaching tree branches or roots back to the boundary of their property. Legally, they are required to retain the arisings and offer them back but the Council is not obliged to accept them.

4.10.5 Trees Touching or Causing Direct Damage to Property

If a tree in Council ownership or managed by the Council is touching a resident's property (dwelling house, garage etc) the Council will take action to remove the nuisance.

The Council will cut back trees to provide a minimum of 0.5 - 2m clearance where possible from properties where they touch windows, walls, roofs or gutters in order to avoid damage. In many cases the solution will be for the Council to prune the tree, but in exceptional circumstances it may be more appropriate to fell the tree. If pruning is appropriate, the Council will endeavour

to undertake works to stop the problem reoccurring within a number of years. A balance will be struck between the nuisance experienced by individuals and the benefits offered by the tree to the wider community.

4.10.6 Trees Blocking Natural Light

The Council will not normally prune, top or fell a Council-owned tree to improve natural light.

Trees are often perceived to block light to nearby properties and the level of alleged nuisance is variable and subjective. There is currently no legal right to direct sunlight and there is no expectation for existing buildings or other structures that trees be removed for this reason.

However, situations where trees are genuinely blocking daylight from habitable rooms to an exceptionable, severe and unreasonable degree may be dealt with on a case by case basis. Minor pruning works may be acceptable in some situations; however, any decision will consider the health and significance of the tree, its contribution to the house, and whether the tree was already present when the occupier moved into the property.

4.10.7 Obstruction of Views

The Council will not prune or fell a Council-owned tree to improve the view from a private property.

Part 4

The Sustainable Management of Trees in Fingal

There is no legal right to a 'view'. Vegetation and trees grow and, over time, contribute to the county's distinctive character. It would be impracticable to prune every tree that affected a view and this would have a major negative impact on public amenity. However, where there are historic vistas or area-defining views appropriate tree maintenance will be considered to preserve the landscape character.

4.10.8 Anti-social Behaviour / CCTV

Trees themselves do not cause anti-social behaviour. Pruning of trees to reduce crime may not be the solution and the felling of trees will be carried out as a last resort.

The Council may continue with the practice of removing the shrub vegetation in areas considered to be anti-social behaviour blackspots.

4.10.9 Unauthorised Pruning, Removal or Damage to Council-Owned Trees

The unauthorised removal of trees affects the amenity of an area and destroys the many positive benefits of trees in a locality.

All Council staff operate from vehicles displaying the Council's logo and tree contractors operating on behalf of the Council are required to erect signage which refers specifically to Fingal County Council. If someone is observed pruning, removing or causing damage to a Council-owned tree

who may be without consent (person not associated with a relevant sign or vehicle and / or without clothing that clearly identifies who they are) the Gardai should be called and the Council notified. Unauthorised damage, pruning or removal of a Council-owned/managed tree may be prosecuted by an Garda Síochána under the Criminal Damage Act 1991.

Unauthorised works or damage to Council-owned trees may result in a compensation charge being levied. This charge will reflect the amount of damage sustained and, where the life/safety of the trees is undermined, it will include the cost of total tree replacement and compensation for loss of tree value. These charges will be drawn up by professional parks staff and each case will be assessed on an individual basis using a recognised tree valuation system (e.g. CAVAT or Helliwell).



Policy 11

The Council may seek to prosecute anyone found to be carrying out unauthorised work or causing damage to its trees without permission and, where appropriate, apply the maximum penalty.

Part 4

The Sustainable Management of Trees in Fingal

4.10.10 Obstruction of Street Lighting

The Council will undertake work to a tree to ensure that trees do not unduly obstruct the streetlight.

In line with the hierarchal approach to tree maintenance, trees in residential areas that are within 5 metres of a public lighting standard and obstructing the light to an unreasonable level may be removed as a last resort if, following consultation with the Public Lighting Section, it is not feasible to i) reduce the height of the light so that light is no longer obstructed, or ii) extend the arm of the light so that light is no longer obstructed. The feasibility and appropriateness of modifying public lighting infrastructure for the purpose of tree preservation will be examined in consultation with the Public Lighting Section. In total, 2,439 of the Council's inventoried trees are within such a distance and, due to significant resourcing issues, it is not always feasible to retain and prune trees in every such scenario. In addition, the long-term viability of the tree if retained in such a location would be compromised by a requirement for ongoing maintenance in order to maintain the effectiveness of the street light.

Trees located in areas with higher footfall such as main streets of towns and village centres in close proximity to streetlights may be considered for pruning in order

to maintain the tree-lined avenue. Trees considered for pruning must have a high amenity value and regular pruning must not cause too high maintenance or negatively impact the trees health. Pruning works can only be carried out where this will not unduly disfigure the tree.



Policy 12

Where new trees are being planted, these will be located so they do not cause future interference to existing streetlights, typically no closer than 7 metres from the centre of the main stem to the pole.

4.10.11 Obstruction of Signage and Sight Lines

The Council will undertake work to a tree in Council ownership/management to maintain clear sight lines, where reasonably feasible, at road junctions and access points and for traffic signals and street signs.

Where an ongoing pruning requirement arises as a result of sightlines, road signs or traffic signals being obscured by tree growth or regrowth, consideration will be given to the removal of trees to minimise ongoing repeat maintenance costs.

Part 4

The Sustainable Management of Trees in Fingal

4.10.12 Trees Located Within Gardens of Council-Owned Housing

Trees located within the residential gardens of Council-owned housing are to be maintained by tenants as part of their tenancy agreement, except in cases subject to the Housing Department's discretion.

4.10.13 Obstruction of Roads, Cycleways and Footpaths

The Council will undertake work to a tree in Council ownership/management where a tree is causing an obstruction to a public highway, public footpath or cycleway, public right of way, or access to property or public open space, where reasonably feasible.

Tree pruning to achieve the following height clearance is considered appropriate where reasonably practical and where it can be achieved without harming tree health or form:

- Footpaths: 2.5m
- Cycleways: 3m
- Roads / streets: 4.5m

Any works necessary to prevent an obstruction in the width of a public footpath due to the presence of a Council-owned tree will be considered on a case by case basis.

If a privately owned tree or other vegetation is causing an obstruction to a footpath or road, powers exist under Section 70 of the

Roads Act 1993 which enable the Roads Authority to deal with the matter. The section allows for the serving of notice on the landowner setting out remedial works to be carried out. Failing action by the landowner, the Roads Authority can arrange to have the necessary works carried out and seek to recoup the cost of the works from the landowner concerned.

4.10.14 Other Tree Related Issues

Fruits / berries

Problems caused by falling fruit, berries, nuts or blossom are natural and seasonal occurrences and not something the Irish legal system recognises as a 'legal nuisance'. Whilst the Council appreciates these problems, they are judged a relatively minor inconvenience when considering the many benefits of having trees within an urban environment. Fruit trees such as apple, cherry and pear are welcomed in many locations for having the double benefit of spring blossom and autumn fruit. This makes fruit trees good for wildlife and a source of free food. However, where fallen fruit is leading to a significant anti-social behaviour problem, the Council will consider measures to reduce the problem including whether a phased removal and replacement with alternative species is reasonable. If there is a hazard on the public footpath the Council's Operations Department should be notified of the problem to arrange clearance. The Council will not fell or prune Council-



Part 4

The Sustainable Management of Trees in Fingal

owned trees solely to alleviate problems caused by natural and/or seasonal phenomena such as fruit / berries, nuts or blossom which are legally outside their control.

Pollen

It is not feasible to remove or prune trees to remove pollen sources. The Council will not prune or fell a Council-owned tree to remove or reduce the release of pollen.

Wild Animals and Insects

The Council will not prune or fell a Council-owned tree to remove or reduce incidents of perceived pests such as bees, wasps or wild animals. Exceptions to this may relate to interventions necessary for ensuring the health of the tree.

Bird droppings

Bird droppings can be unpleasant and a nuisance but the problem is not considered a reason to prune or remove a tree. Roosting birds are a natural occurrence as is their production of droppings. Generally, felling a tree will not alleviate the problem as birds will relocate to another tree in the locality. Similarly, pruning will not resolve the problem as birds will relocate to other branches. Warm soapy water will usually be enough to remove the bird droppings. Nesting birds are protected under the Wildlife Acts 1976 and Habitats Regulations 1997–2005.

The Council will not prune or fell a Council-owned tree solely to remove or reduce bird droppings.

Sap / honeydew

Certain species of tree, for example lime and sycamore, are susceptible to aphids or other leaf feeding insects. Honeydew is the sugary sap / sticky deposit which results from insects feeding and is subsequently colonised on surfaces by sooty mould fungi giving it a black appearance. Honeydew is a natural and seasonal problem and the severity varies from year to year depending on conditions. A balance between the inconvenience of honeydew deposits and the wider benefits of trees must be achieved and as such there is unlikely to be justification for the pruning or removal of trees due to honeydew deposits. Residents are advised to make their own arrangements to minimise the problem: regular car washing, covering the car or parking in an alternative location. Where honeydew affects cars, warm soapy water will easily remove the substance.

The Council will not prune or fell a Council-owned tree solely to remove or reduce honeydew or other sticky residue from trees.

Part 4

The Sustainable Management of Trees in Fingal

Leaf Fall

The loss of leaves from trees in the autumn is part of the natural cycle and cannot be avoided by pruning. The composting of leaves is encouraged as a way of environmentally recycling this valuable resource. In addition, the Council organises a street cleaning service which sweeps leaves from most streets and residential roads during the autumn period.

The maintenance of gutters is the responsibility of the property / landowner. Where gutters are regularly blocked by fallen leaves the installation of gutter guards by the landowner may provide a low maintenance solution.

The Council will not prune or fell a Council-owned tree to remove or reduce leaf fall or remove fallen leaves from private property.

Satellite Dishes

The Council acknowledges that television and satellite entertainment are important to residents. However, a balance must be found between these and the local environment. The responsibility for receiving a satellite television signal is with the company that erects the satellite dish or aerial. The company should erect their equipment in a location that receives a clear signal.

The Council will not prune or fell a Council-owned/managed tree solely to improve TV and / or satellite reception, where the trees in question would not otherwise require works.

Solar Panels

Whilst the Council appreciates that there is a need to provide renewable energy resources, trees have an important role in maintaining and improving local amenity, as well as contributing to local and national targets in tackling climate change. The presence of existing trees and how these trees will grow in the future must be fully appreciated when considering a suitable location for the placement of solar panels.

The Council will not prune or fell a Council-owned/managed tree to facilitate installation or improve natural light to a solar panel.

Trees Considered too Large

Residents may feel apprehensive about the size of a tree and consider it dangerous. However, trees are not dangerous just because they are perceived as tall, too big for their surroundings or move in the wind. Tree movement in high winds is natural and one of the ways they can withstand strong winds. Other problems would need to be shown for the Council to consider the tree to be dangerous.

Part 4

The Sustainable Management of Trees in Fingal

The Council will not prune or fell a Council-owned/managed tree because it is considered 'too big' or 'too tall'.

Trees competing with privately owned trees and shrubs

The Council will not prune or fell a Council-owned/managed tree because it is competing with privately owned garden plants with its shade cast or water uptake. The best gardening approach is to work with the environment in a given location such as introducing shade or dry tolerant plants.

Exceptional circumstances

The Council recognises that in some exceptional circumstances intervention is required to address problems relating to trees on public land. Where these problems and likely future maintenance costs are excessive the tree may be removed and replaced with a more suitable species.

Exceptional circumstances will be assessed individually on their merits.



An aerial photograph of a lush green landscape, likely a golf course. A winding river flows through the center, bordered by dense, mature trees. The surrounding areas are well-maintained green lawns with visible paths and a paved road on the right side. The overall scene is vibrant and natural.

Part 5 Moving Forward

Aims and Objectives of the Fingal Tree Strategy

Part 4 The Sustainable Management of Trees in Fingal

5.1 Main Aims of the Strategy

Our 4 main aims derived from the Vision and Guiding Principles are as follows:



5.11 Annual Net Increase in Tree Canopy Cover

The Dublin Tree Canopy Study, published in 2017 by the University College Dublin School of Geography, has estimated that Fingal has a 6.5% cover of tree canopy, with an estimated cover of 10% across the entire county of Dublin. With a recommended target of 15% to achieve the European city average, Fingal can help to achieve this in implementing targets, policies and objectives set out in this Strategy.

There are many ways this can be achieved, from direct tree planting to encouraging the residents in Fingal to plant trees in their gardens. Government level incentives to

plant native broadleaf woodland on privately owned commercial and farmland are to be promoted.

5.12 Have a Thriving, Diverse and Sustainable Tree Population

Trees should be protected, maintained and enhanced as a resource. This resource should be considered as an urban forest. Protecting, managing and enhancing trees and woodland will maximise their potential and will improve the quality of life for the citizens, visitors and workers of a resilient Fingal.

Part 5 Moving Forward

5.13 Maximise the Benefits of Trees as a Valuable Asset and Resource

This can be achieved in numerous ways: plant the right tree in the right place; make sensible species' selection; ensure trees not only survive but thrive for many years; protect trees from unnecessary removal or damage; maintain and care for trees using the best and latest industry guidelines; and identify areas where trees are in most need and where they can provide a good service.

5.14 Create a Sense of Ownership with the Public, Community Groups, and Stakeholders

Engage with communities and other stakeholders regarding the value of trees and the services they provide, and inform them of future management work such as planting and maintenance. Liaising with residents on planting schemes and taking suggestions on where to plant etc., will form part of this approach and will result in local communities having a sense of ownership of the trees in their area.

Example: Involving communities in tree projects in the London borough of Hackney has proven very successful with a very low 1% death rate of newly planted trees since the scheme was introduced in 2006.



Part 5 Moving Forward

5.2 Objectives of the Strategy

Objective 1: Manage Trees Coherently, Responsibly and Efficiently

Sensible management is key to a positive outcomes arising from the Fingal Tree Strategy. Many of the proposals are under the remit of a Tree Officer and management team to coordinate and implement. The analysis and surveys of the Council's trees and woodlands proposed under this objective will help to inform SMART (Specific Measurable Achievable Realistic Timely) Targets going forward. This will give the Council a clearer picture in terms of the Baseline (what the Council has now), Vision (where the Council wants to be) and Actions (how to get there). The findings and recommendations from surveying trees, woodlands and lands available to accommodate planting will inform the setting of specific targets, such as an increase in tree canopy cover across the county and neighbourhoods. For this reason, the Strategy is to remain a live document to reflect and adapt to new findings, recommendations and developments as they arise.

Objective 2: Protection and Retention of Existing Trees

This is a key objective in achieving the Council's aims. Firstly, to allow already established trees to thrive and not merely survive will ensure that they grow to their full potential, increasing the canopy cover and benefits simultaneously. There is a wide range of threats and stresses to trees as outlined in section 1.3, from direct human intervention to climate change and associated pests and diseases.

Objective 3: Tree Planting and Establishment Initiatives to Ensure a Sustainable Tree Population

Tree planting is part of the solution to increase tree canopy cover and enhance the resilience of Fingal. There are numerous methods and tools to achieve this, including prioritised planting, in terms of which areas are in most need, and where planting could serve a valuable purpose when considering factors such as flooding, pollution etc., or a combination of several scenarios.

Part 5 Moving Forward

Objective 4: Community Involvement, Public Engagement and Awareness Building

Fingal currently consults with various communities, NGOs and residents with regards to tree management but there is always potential to build and strengthen further this key objective, potentially with very positive results. The Council will continue to support planting of trees on private land to encourage a collective action approach to increasing tree cover.

Initiatives under this objective will align with and strengthen the previous objectives. Community planting schemes, such as the new Miyawaki Forestry phenomenon increasingly used across Europe, involves communities planting dense self sustaining forests in marginal lands. This is also a platform for education and raising awareness in relation to tree benefits, such as adaptation and mitigation of climate change.

Another positive outcome will be increased confidence following improved protocols for proactive engagement and dialogue with communities and residents where significant tree management works and works affecting trees are proposed.



Popular Tree giveaway event during the 2019 National Tree Week in Ardgillan

Part 5 Moving Forward

5.3 The Action Plan

Making it happen

The following proposed Objectives and Actions summarise the main outcomes from the implementation of the Strategy over its lifetime

Objective 1: Responsible, Efficient & Coherent Approach to Tree Management

Action

- 1.1 Secure an Annual Dedicated Tree Budget for adequate resourcing of tree management
- 1.2 Recruit a Tree Officer and Tree Management Team to coordinate and implement the Strategy
- 1.3 Resurvey and update the public realm tree inventory data (street and open space trees) to refresh Council inventory and inform maintenance
- 1.4 Develop a cyclical, proactive tree management programme based on the survey's data, in the interest of tree health and public safety
- 1.5 Commission woodland management plans to specify required works and ensure the long term viability of Fingal's woodlands and use them to their full potential, in line with the biodiversity action plan. To include training of relevant staff
- 1.6 Commission the study and report on the ecosystem services/nature-based solutions provided by Fingal's trees with reference to their economic/climate change adaptation benefits

Part 5 Moving Forward

Objective 2: Tree Protection & Retention

Action

- 2.1 Prepare tree related planning and design guidelines for inclusion in the next Fingal County Development Plan
- 2.2 Review the Council's existing TPOs (Tree Preservation Orders) with a view to revising and updating this list with additional trees and sites
- 2.3 Develop best practice guidelines/requirements for utility companies and contractors when working in proximity to trees, including open spaces
- 2.4 Map and survey all significant/historic stands of woodland within the county e.g. in excess of 5ha, and review the effectiveness of the protection offered under the Green Infrastructure Network Zoning of woodlands in the County Development Plan
- 2.5 Assess and adopt tree valuation methods for compensatory / replacement planting, e.g. CAVAT, iTree
- 2.6 Participate as a member with the Tree Council of Ireland with a view to influencing national policy relating to trees

Part 5 Moving Forward

Objective 3: Tree Planting and Establishment Initiatives to Ensure a Sustainable Tree Population

Action

- 3.1** Initiate a programme of targeted Strategic Annual Tree Planting including identifying and mapping priority locations, to include sites suitable for woodland creation. Reviewed in an annual works programme, presenting what is planned for the coming year. Taking advantage of government funding programmes such as the New Woodland Creation Scheme on Public Lands
-
- 3.2** Promote the retrofitting of integrated constructed tree pits incorporating SuDS within urban areas with low levels of tree cover
-
- 3.3** Prepare a list of suitable tree species recommended for differing situations / functions and make available to developers and other stakeholders following the Guiding Principle of 'right tree in the right place'
-
- 3.4** Explore opportunities to partner with companies and other entities for Corporate Social Responsibility initiatives involving tree planting
-

Part 5 Moving Forward

Objective 4: Community Involvement, Public Engagement & Awareness

Action

- 4.1** Construct a dedicated and interactive tree webpage on the Council's website. This will provide opportunities such as a Tree Champions contact list, citizen science/ public participation schemes for tree identification and surveying etc. and other tree related matters. It will also assist with knowledge sharing and public information and awareness purposes
- 4.2** Continue to build on participation in National Tree Week/Day events such as Tree Giveaways and community planting, to include community orchards, nurseries and the introduction of Miyawaki Forest schemes
- 4.3** Develop protocols for engaging with communities and residents for proposed significant tree management works and works affecting trees
- 4.4** Involve residents and community groups, e.g. Tidy Towns/community garden groups, in the establishment of newly planted trees in their area, e.g. watering



Appendices

Appendices

APPENDIX I: Tree related policies quoted throughout the Strategy

(for inclusion in other relevant Council documents)

Policy 1: The Council will carry out tree pruning and felling outside of the nesting period as far as reasonably practicable. A typical exception of this is on the grounds of health and safety concerns. The National Parks and Wildlife Service will be informed in these instances.

Policy 2: The Council will explore and implement biosecurity measures and protocols to keep tree pests and diseases under control within Fingal.

Policy 3: The Council plans to inform and promote the importance of trees as part of the urban environment and put them on a level footing with all urban infrastructure.

Policy 4: In balancing tree risks and benefits the Council will:

1. Manage the risk of significant injury or property damage to levels that are as low as reasonably practicable.
 2. Operate a system of proactive and reactive tree inspections.
 3. Maintain a detailed record of trees and inspections.
 4. Ensure competent individuals carry out tree inspections.
 5. Ensure work identified through the inspection programme is undertaken by suitably qualified staff or contractors within the appropriate timeframe.
-

Policy 5: The Principle of planting the 'right tree in the right place' will apply for all new tree planting.

Policy 6: Following instances of tree removal, and subject to availability of space and resources, replacement trees will correspond to the size of the removed tree.

Appendices

Policy 7: As well as pruning for arboriculture reasons, the following will be the general standard for (street)trees in the public realm:

- Footpaths: 2.5m overhead clearance
- Roads: 4.5m overhead clearance
- Buildings: 2m clearance

Policy 8: The Council aims to ensure that every tree felled is replaced to guarantee a renewable tree stock in Fingal for future generations

Policy 9: The Council will not remove trees without adequate justification. When felling work is proposed, the reasons for the work will be documented and recorded to include photographs.

Policy 10: To correct imbalances or over reliance on certain genera or species in the existing stock, species and varieties will be selected to meet the requirements of the **30:20:10** rule - no more than 30% of trees from any one family, 20% from a single genus or 10% from a single species.

Policy 11: The Council may seek to prosecute anyone found to be carrying out unauthorised work or causing damage to its trees without permission and, where appropriate, apply the maximum penalty.

Policy 12: Where new trees are being planted, these will be located so they do not cause future interference to existing streetlights, typically no closer than 7m from the centre of the main stem to the pole.

APPENDIX II: Glossary of Terms

Arboriculture is defined as the cultivation, practice and study of the care of trees and shrubs in the landscape. Professionals working in the trade have expanded the definition to include the production, selection, planting, maintenance, management and removal of all wooded plants for amenity purposes.

Biodiversity describes the 'variety of life', or the range of plants, animals and habitats that exist in a given area.

Carbon Sinks are natural systems like forests, soil and oceans that store carbon removed from carbon dioxide in the atmosphere.

Carbon Sequestration is the process of capturing and storing atmospheric carbon dioxide. This helps to either mitigate or defer dangerous climate change.

Climate Change is primarily a problem of too much carbon dioxide (CO₂) in the atmosphere. This carbon overload is caused mainly when we burn fossil fuels like coal, oil and gas or cut down and burn forests.

Crown Lift or crown raising is the removal of the lowest branches and/or preparing of lower branches for future removal. It is an effective method of increasing light transmission to areas closer to the tree or to enable access under the crown. Crown lifting is generally specified with reference to a fixed point, e.g. 'crown lift to give 5.5m clearance above ground level'.

Evapotranspiration is the process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.

Face reduction is the pruning of branches on one side of the tree. It is carried out when the branches of a tree are touching an adjacent building or extensively overhanging a private property.

Appendices

Green Infrastructure is a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings.

Nature-Based Solutions are defined by the International Union for Conservation of nature as ‘actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits.

Sustainable Urban Drainage Systems (SuDS) ‘total’ solution to rainwater management and is applicable in both urban and rural situations. SuDS can also provide amenity benefits to local communities and benefits for biodiversity simultaneously. In this way SuDS features are not just part of the county’s drainage infrastructure but a vital part of the county’s Green Urban Infrastructure.

Tree Canopy Cover is the metric used to indicate the benefits provided by the urban forest. It is measured as tree canopy cover percentage of the total area under review. It has the advantage of being relatively simple and inexpensive to assess using spatial analysis techniques. Increases in tree canopy cover can most efficiently be realised by maximising tree protection and maintenance in combination with new plantings. If trees are managed such that their anticipated mature crown projections are realised, significant canopy cover increases can occur in conjunction with new planting (Grove et al; 2006). As trees and their canopies take time to grow, more than twenty years will generally be needed to achieve a measurable change in canopy cover.

Urban Forest is an internationally used term to define an integrated, city wide approach to the planting, care and management of trees in the city to secure multiple environmental and social benefits for urban dwellers.

Appendices

APPENDIX III: Useful Tree and Environmental Related Websites

<https://www.treesaregood.org>

<https://www.treeCouncil.ie>

<https://www.trilliontreecampaign.org>

<https://www.agriculture.gov.ie/forests-service/>

<https://www.treesforcities.org>

<https://www.cityoftrees.org.uk/>

<https://www.epa.ie>

<https://www.woodlandsofireland.com/>

<https://www.heritageCouncil.ie/>

<https://dublinclimatechange.codema.ie/>

<https://www.climateireland.ie/>

<https://www.worldwildlife.org/>

<https://www.observatree.org.uk/>

<https://www.forestresearch.gov.uk/>

<https://www.treetalk.co.uk/>

<https://www.trees.org.uk/>

<https://www.tdag.org.uk/>

APPENDIX IV: Tree Preservation Orders (TPOs)

Under the Planning and Development Acts 2000 to 2011, local authorities have a mandatory responsibility to include objectives in the Development Plan relating to the preserving of amenities. In guidelines issued by the Department of the Environment in 1986, local authorities are encouraged to undertake special tree surveys as part of the general process of preparing the Development Plan. It suggests that trees of amenity interest be mapped and listed and that owners and occupiers of land on which such trees stand be notified. It also suggests that TPOs be made in appropriate cases, taking account of the relative amenity importance and degree of risk to the particular tree(s).

Section 205 of the Planning and Development Act 2000 provides for the making of a TPO by the planning authority where it seems to that authority to be necessary to preserve tree(s) on amenity or environmental grounds. This prevents the cutting down, topping, lopping or wilful destruction of the trees. In addition, the TPO may require the owner and occupier of the land affected by the order to enter into an agreement with the planning authority to ensure the proper management of any trees (including the replanting of trees), subject to the planning authority providing assistance (including financial) towards such management as may be agreed.

TPOs cannot apply to dying, dead or dangerous trees or where felling is otherwise required by statute. Where a TPO has been made, an application may be made under the Act for consent to fell trees covered by that TPO. If consent is given by the local authority, that local authority may also attach conditions.

Regarding TPOs, or indeed Planning Permission, there is no statutory link between the Planning Acts and the Forestry Act 2014. Both operate separately. This means, for example, that Planning Permission may have been obtained to develop an area, which may itself involve felling trees. However, the felling should not take place without a felling licence from the Forest Service of the DAFM. Similarly, with TPOs, a felling licence may have been issued from the Forest Service for felling, but the trees cannot be cut down unless the local authority also issues consent.

Appendices

APPENDIX V: Example of leaflet requesting the aid of residents for establishment of newly planted trees (See Action 4.4)



PLEASE WATER YOUR TREES!

Newly-planted trees need to be watered regularly over the summer months if they are going to become established and thrive.

If you have a tree outside your house, or one that you pass on your daily walk, then you can help.

Requirements vary depending on a number of factors such as species and location, but a general rule is that they should receive at least 50 litres of water per week in May, June, July and August:

Please water regularly during dry periods with as much as you can – Every little helps



- Watering should ideally be carried out in the early morning or evening.**
- It is good practice to water trees for the first three years after planting.**
- If the tree has a watering pipe, then half of the water should be poured down the pipe and the other half on the surface of the tree. If the tree has a watering bag, then fill that.**
- Where possible, water should be sustainably sourced. Harvested rainwater is ideal, but bath water, or water which has been used for the washing up, is also suitable.**

More information about tree watering can be found in the **London Tree Officers Association (LTOA)** publication *Sustainable water management*, available for free download at www.ltoa.org.uk

General information about trees and tree care can be found at the **Arboricultural Association** website www.trees.org.uk

www.trees.org.uk | www.ltoa.org.uk | www.ato.org.uk | www.mtoa.co.uk
Arboricultural Association | London Tree Officer Association | Association of Tree Officers | Municipal Tree Officers' Association

Appendices

APPENDIX VI: Infographic Depicting Headline Figures from a study of the Ecosystem Services that Trees Provide (See Action 1.6)

Report carried out by Treeconomics for Ealing Borough Council

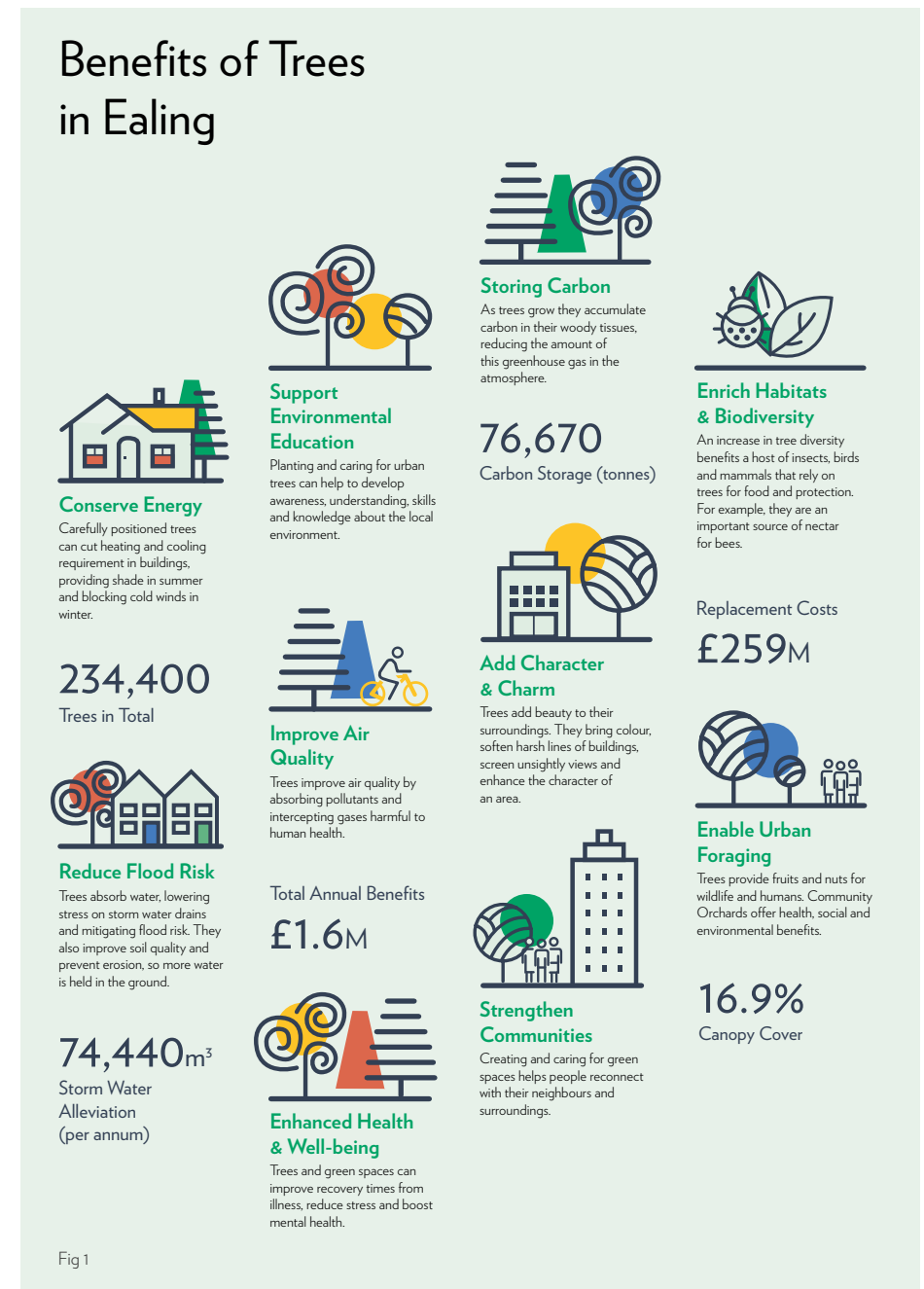


Fig 1

Appendices

APPENDIX VII: References and Sources of Information

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