London Borough of Haringey

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Tree Strategy
2014-2018

Haringey Council

Tree Strategy 2014-2018

Contents

1. Introduction

Trees play an essential role in towns and cities providing a wide range of environmental, economic and social benefits. Some benefits are measurable, such as improvements in air quality[1], many are not, but they can have a positive impact on the lives of those living and working in the urban environment.

Haringey Council is committed to creating a greener, more sustainable environment for its residents, people who come to work in the Borough and visitors. This revised tree strategy is aimed at building on the achievements of the Councils original tree strategy which was adopted in 2008. It details the Council's approach to the management and enhancement of its tree stock and provides guidance to other parties in the borough that have a responsibility for trees.

Our tree strategy will ensure trees within Haringey are managed in a pro-active and systematic manner. This approach will lead to improvements in tree health and provide a more sustainable tree population. Application of policies set out in the tree strategy will increase the wide range of benefits that trees provide.

2 Key objectives and action plan

The Council has identified key objectives in the Community strategy and the Greenest Borough Strategy that relate to the management of its tree stock and those on private land. The strategic aim of The Council is to create an environmentally sustainable future for healthier people with a better quality of life. The Tree Strategy will support the Council's strategic objectives by ensuring that trees within the Borough are protected, managed in a proactive and systematic manner and their overall number is increased.

Key objectives

The Council has five key objectives in implementing this strategy.

- To protect and enhance the Borough's natural environment.
- To increase the pro-active management of Council owned trees.
- To increase public involvement in the management of Council trees.
- To improve tree management and create a safer, healthier tree population.
- To encourage other agencies to adopt the Tree Strategy.

1. Tallis, M, Taylor, G, Sinnett, D and Freer-Smith, P. (2011) Estimating the removal of atmospheric particulate pollution by the urban tree canopy of London, under current and future environments

Action Plan

An Action Plan has been prepared to support the tree strategy. It sets out what we hope to achieve between now and 2018. It identifies the actions necessary to meet the key objectives and build on the recent improvements in the management and enhancement of the Borough's tree population. Successful implementation of the Tree Strategy will involve co-operation across Council services. The key actions include;

- Plant at least 250 new trees each year ensuring we plant 50 more than we remove to continue the increase in Council owned tree stock.
- Review all existing TPOs and update the public register held by the Councils Planning Service.
- Place a monetary value on street trees.
- Review and update information on tree management procedures on Council website.
- To develop the Tree Warden Scheme.
- Attain UKWAS certification for all our ancient woodlands.

3. About trees

3.1 The benefits that trees provide

The London Tree Officers Association (LTOA) has identified the following range of benefits trees provide when growing in an urban environment. The LTOA was established in 1982 provides professional and technical information on arboricultural matters for London boroughs.

Environmental benefits

- Absorbing carbon dioxide (the main greenhouse gas).
- Filtering, absorbing and reducing pollutants (ozone, sulphur dioxide, carbon monoxide, nitrogen dioxide, dust, particulates and noise).
- Producing oxygen.
- Reducing localized extremes in temperatures, cooling in the summer and warming in the winter (countering urban heat island effects).
- Reducing the effects of flash floods (tree canopies intercept rainfall slowing down its path to the ground beneath).
- Acting as carbon sinks (although in terms of trees in towns this role is limited and is more symbolic than actual).
- Increasing biodiversity, street trees provide natural links with parks and open spaces allowing for the movement of wildlife to other areas.
- Reducing noise levels by acting as a sound barrier.
- Can be a source of local food, reducing food transport / miles and increase food security.
- Providing habitats for a broad range of wildlife.

Social benefits

- Providing amenity, aesthetic value and historical continuity.
- Marking the changing seasons with leaf changes and floral displays
- Symbolizing community focal points.

Economic benefits

- Increasing property values (the presence of trees can increase the value of residential and commercial property by 5% -18%.
- The value of undeveloped land with mature trees can be increased by 27%.
- Providing a sustainable source of graded timber, mulch and charcoal.
- Providing a sustainable source of woodchip biofuel.
- Providing a sustainable source of compost (leaf litter).
- Providing employment through all aspects of the industry.
- When planted strategically they can reduce fossil fuel emissions by reducing fuel costs for heating and cooling buildings.

Health and Well Being

- Providing shade, making outdoor leisure activities more pleasurable during hot weather and also reducing risk of skin cancers by from harmful ultra-violet radiation.
- Reducing stress and illness by providing a sense of well being through softening the built environment, creating character and a sense of place and permanence.
- Releasing scents and aromas that elicit a positive emotional response contributing to health and well being.

3.2 Tree problems

The close proximity of trees, people and built structures will occasionally result in inconvenience to residents. Nuisance issues may also arise by maintaining a tree population which is diverse in age and species. Problems may include the obstruction of light into homes and direct or indirect damage to built structures. Section 7 details how the Council will manage and maintain trees to minimise nuisance to residents. Future problems can be reduced by following the principle of planting the 'right tree in the right place', ensuring careful consideration is given to the location of new trees and the selection of species.

3.3 Threats to trees

Trees in the urban landscape are extremely susceptible to changes in their local surroundings, which can result in damage to their physiological processes, physical injury and potentially their death. They are growing in an often hostile environment and face a broad range of factors that can have a serious impact on their health. They include;

- Pests and diseases.
- Extreme weather conditions which are predicted to be more frequent as a result of the effects of global warming (high winds, higher temperatures, changes to seasonal rainfall patterns.
- Construction activities (trenching for utility works, repairs to the public highway and new development works.
- Vehicle damage.
- Vandalism and dog damage.
- Salt application to melt snow and ice on footways and roads.
- Gas and water leaks.
- Inappropriate or poor pruning, which may allow access for pest and diseases.

3.3.1 Pests and Diseases

In recent years, there has been a significant increase in findings of new pests and diseases that threaten some of our most commonly found tree species such as Oaks, Ash, Horse chestnut and London plane. The loss of such trees would have a devastating impact as they are large trees which provide a greater number of benefits and are often very prominent features in the city landscape. Appendix 8 lists the pests and diseases that are of immediate concern to tree owners not only in London, but throughout the country. All were previously evident in Europe and have found their way to the UK. Local authorities are sent regular updates by the Forestry Commission who are the government department responsible for the protection of Britain's forests and woodlands. We also receive the latest advice and management recommendations from the LTOA. Throughout the life of this strategy, we will ensure that regular surveys are carried out to determine the existence and extent of any outbreaks of new pests and diseases in the Borough.

4. Trees in Haringey

The Council is responsible for approximately 40,000 trees, these are located on streets and housing sites, in parks and open spaces, in woodlands and conservation sites, in schools and in the grounds of other public buildings. Tree works are undertaken to fulfill the Council's 'duty of care' and in accordance with the management priorities of the particular service. Section 8.7 outlines the range of works we carry out. Appendix 6 gives a description of different tree maintenance operations.

4.1 Street trees

Street trees are an integral and often historical component of the urban landscape and as such are valued by local residents. Haringey has a street tree population of approximately 11,500 trees and is increasing the total year on year.

Many of the oldest and largest street trees are London Plane and Lime. Planted during the Victorian era, they are predominantly managed by regular pollarding. The remaining street trees can be classified as ornamental species which have a shorter lifespan and

include Cherry, Plum, Rowan and Birch. There are also some trees which can reach a medium size at maturity and have a longer lifespan and include Maple and Hornbeam. In more recent years, trees with a small – medium mature size have been planted and include Serviceberry, Field Maple, Hawthorn, Pear and Apple.

Street trees are often subject to a poor rooting environment and stress from air borne pollution. Constant disturbance and physical damage is also caused by the works of utility companies. Some species, such as London Plane and Lime will tolerate minor damage, but only to a point. For many other species, it will reduce their safe life expectancy as injuries to their roots, trunks and crowns increase the likelihood of colonisation by decay-causing fungi.

4.11 Highways maintenance works

The renewal and repair of service routes by utility companies is an ongoing process. Such works are essential for both economic and social needs. Where these works are planned, the Council will provide advice and recommendations, referring to published guidance, on the most efficient methods to avoid damage to trees. The Council will endeavour to make all utility companies and their contractors aware of the most up to date version of National Joint Utilities Group: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG 4) and expect compliance with the guidelines. Recompense will be sought where trees are damaged through negligence. Highways maintenance works are managed and monitored through the New Roads and Street Works Act (NRSWA) service.

4.12 Tree renewal

Some species of tree become unsuitable to their location as they mature because of their size, rooting habit and close proximity to structures. They may cause physical damage to the public highway or to adjacent structures. This damage results in increased Highway maintenance and Insurance costs.

Where the problems and likely future maintenance costs are so great that appropriate pruning cannot remedy the situation, trees will be removed and replaced with a more suitable species. Trees may also be removed which are over mature and have a reduced life expectancy. This relates primarily to street trees, as over mature trees in other sites will be retained where possible for their wildlife value.

The phased removal and replacement of unsuitable trees will produce a more sustainable tree population that is diverse in age and species. This will provide short and long term benefits for residents as nuisance issues and maintenance costs will be reduced, allowing resources to be used for other improvements to the local environment. Tree renewal works will be undertaken during programmed maintenance works or where the damage caused has been identified as an immediate hazard to the public or a structure.

4.13 Vehicle crossovers (dropped kerbs)

Public requests for vehicle crossovers have become increasingly common in recent years as the number of cars per household has increased. However, the increase in hard surfaces and reduction in green space has led to an increased risk of flash flooding and loss of biodiversity. As such permission for new crossovers is strictly controlled and applications are considered in accordance with the current Council policy. Residents are encouraged to install hard surfaces which have permeable joints or porous surfacing that will allow water to infiltrate the underlying soil or divert surface run-off into conventional drainage systems within the private property.

Permission to remove trees to allow for new crossovers will not be granted except in extenuating circumstances or there a good arboricultural reason to do so. On the rare occasions where permission is granted, all costs for tree removal works and the planting of replacement trees will be borne by the applicant.

4.2 Trees on Housing land

Client Services has a service level agreement with Homes for Haringey (HFH) to maintain trees on its estates. Trees on housing estates are inspected within a four yearly cyclical programme. Trees in individual properties are inspected upon request by Housing officers.

Many estates contain significant tree populations with large specimens that have a long life expectancy. However, on some sites there is a lack of trees in both variety and in their age and species. The tree planting programme will aim to address these issues.

Housing land provides one of the most suitable locations for tree planting and allows for a greater choice of tree species to be used. Trees with a large size at maturity can be planted without the need for regular pruning.

4.3 Trees in Parks and Open Spaces

Haringey has more than 600 hectares of parks, recreation grounds and open spaces, which make an important contribution to people's overall quality of life. Recent surveys have indicated an increase in public usage and satisfaction with their management. Trees are an essential feature of parks and open spaces, providing screening, shade and structure, making them a more attractive environment to visit and in which to enjoy a broad range of recreational activities.

Parks and open spaces managed by the Council have been awarded 16 Green Flags in recognition of the investment and improvements that have been implemented in recent years. All the major parks now have management plans in place. Parks and open spaces are of significant arboricultural importance as they contain some of the largest and oldest trees in the Borough. Proactive management is essential to ensure a healthy tree population and one that is diverse in age and species.

4.4 Trees in Woodlands and Conservation sites

Haringey contains a wide variety of habitats and dependent wildlife and their protection is of the utmost importance in order to retain and enhance biodiversity. The range of different flora and fauna found within an urban environment can affect our quality of life by providing contact with the natural world. Biodiversity increases the value of a site for educational and recreational activities.

Haringey's biodiversity is a fragment of the ecosystem which stretches far beyond political boundaries. Many species are visitors in addition to the native populations. The Council's Biodiversity Action Plan (BAP) reflects the importance of maintaining habitats as vital links in London's Green Corridor.

The Borough contains four ancient woodlands; Coldfall wood, Queens wood, Bluebell wood and Highgate wood (which is managed by the City of London). There are also three designated Local Nature Reserves (LNR), which are: Parkland Walk, Queens Wood and Railway Fields.

All of these sites and others of ecological interest are protected and managed in accordance with the BAP. Tree works in woodlands and conservation sites are carried out in accordance with their management plans and to mitigate actionable nuisances and potential risks to site users. Works such as coppicing and the clearance of invasive species are coordinated by the Nature Conservation Officer and Parks Area Managers, often working closely with 'Friends' groups and volunteers under the guidance of TCV.

Woodlands and large native trees support a greater number and variety of species than most other habitats. Of particular importance are old trees, including stumps, which contain cavities and dead, decaying wood. This habitat supports large numbers of insects not found anywhere else.

4.6 Trees on Education land

Trees within the grounds of the Borough's schools are the responsibility of those schools. The Tree Section will inspect trees and recommend maintenance works when requested to do so.

4.7 Veteran trees

Veteran trees can be defined as: 'a tree that is of interest biologically, culturally or aesthetically because of its age, size or condition.' It is usually in the second or mature stage of its life and has important wildlife and habitat features. The Council are responsible for a number of veteran and ancient trees many of which are in woodlands. There are also some under private ownership. These are an important feature in the borough's tree population. However, they have not been formally recorded or mapped which makes it difficult to ensure their effective management and protection. The

Council will initiate a project to record and map the borough's veteran trees and will investigate the use of local volunteers to assist in this process.

4.8 Trees under private ownership

There are a great many trees located on privately owned land that make a significant contribution to the local landscape and the health and well being of people who live, work and visit Haringey. In the west of the borough, many large gardens are home to mature trees protected by Tree Preservation Orders (TPO) and by their inclusion in Conservation Areas (CA). In the east, sites like St Ann's Hospital contain rare species not found anywhere else in the Borough.

Current records indicate there are approximately 1700 TPOs in the borough this includes group and area orders dating back to 1954. It is a statutory requirement to maintain an up to date register containing accurate information on TPOs. Government guidance advises Local Authorities to keep their TPOs under review using the powers available to them under the legislation. The action plan proposes to review and update the register of TPO's held by the Council. We make approximately 20 new TPO's every year for trees that are often under threat and whose loss would have detrimental impact on their local area.

Owners of trees subject to a TPO are required to make a formal planning application to the Council requesting permission to undertake works. There are 28 CAs within the Borough. Tree owners within a CA must give the Council six week's notice of their intention to undertake any works. The notice allows the Council the opportunity to consider whether a TPO should be made in respect of the tree(s). More information on protected trees can be found in Appendix 3.

4.9 Other agencies with responsibility for trees within the borough.

We will encourage other agencies with responsibility for trees within the borough to adopt the Tree Strategy to ensure there is a common approach to the management and maintenance of trees across the Borough. Those agencies include;

- Alexandra Palace Charitable Trust (Alexandra Park)
- City of London Corporation (Highgate wood)
- Lee Valley Park Authority (Lee Valley Park)
- Network Rail (Railway embankments and other operational land)
- Thames Water (Reservoirs and New River)
- Transport for London (A1 and A10 roads)
- Housing Associations (various sites)
- Fusion Lifestyle (Leisure Centres)
- Dignity Funerals Ltd (Cemeteries)
- Private Schools (e.g. Channing School for Girls, Highgate School)

5. Climate Change and its impact on trees

The UK's climate is changing. In summary, we will see hotter and drier summers and warmer and wetter winters. We will also see more extreme weather events, including heavy rain bursts (increasing risk of flash floods) and heat waves (increasing the risk of droughts and public health issues). In the last decade alone we have experienced three of the hottest and two of the wettest summers on record. The most recent predictions for the UK suggest an overall increase in temperature and changes to rainfall patterns and wind speed.

Climate change has a direct and indirect effect on trees in a number of ways. A rise in carbon dioxide levels in the atmosphere causes an increase in tree growth and extends the growing season. Some tree species will experience earlier flushing of leaves and flowers. Lower summer rainfall and an increased evaporation are likely to lead to longer periods of drought-induced stress on trees. An increase in the occurrence of storms will make trees more vulnerable to wind damage. Warmer summers and a rise in temperatures in general are likely to extend the life cycle and geographical range of certain pests and diseases. Trees under stress are much more susceptible to colonisation by insect pests and decay-causing fungi.

The role of trees and woodlands in urban areas will become much more important as climate change makes towns and cities increasingly unpleasant during heat waves. Trees produce oxygen and provide shade. They limit the urban heat island effect and intercept rainfall reducing the impact of storms. The Council will ensure appropriate provision is made by planting suitable trees that will withstand the predicted changes to climate and weather patterns.

A study published in 2007 by the University of Manchester noted that a 10% increase in tree cover could contribute to reducing urban temperatures by 4C for relatively little cost.

6 Trees and subsidence

6.1 Subsidence in Haringey

Subsidence is a cause of concern in Haringey because of the underlying soil and the high volume of Victorian buildings. It is one of the main reasons for the systematic approach the Council has to tree management.

The underlying soil in Haringey is predominantly London Clay, which shrinks when moisture is lost and swells when moisture is absorbed. The drying out and re-wetting of the soil occurs throughout the year as reflected in changes in temperature and the amount of rainfall. Structures built on shrinkable clay can sometimes be subject to movement during this process. Often the amounts are so small they go unnoticed. However, the location of trees and other significant vegetation can exacerbate the drying of the soil by extracting moisture through their roots. This can have an impact on

the part of a structure closest to it, causing it to move in contrast to the rest of the building. This differential movement causes visible cracks to appear. The cracks open in late summer and close again in winter as reflected by the moisture content of the soil.

During the summer months, water uptake by trees and other vegetation is at its highest, whereas usually rainfall is fairly low. This can result in the soil becoming desiccated. During the winter months, plants become dormant and levels of rainfall usually increase and allow the soil to become re-hydrated. However, in some instances the amount of water extracted is more than is absorbed from annual rainfall, therefore, the soil never has the opportunity to become totally re-hydrated and it develops a permanent desiccation. At this point, the cracks will not completely close and repair works to the building may be necessary.

The Council acknowledges that trees under its ownership may be implicated in causing subsidence damage to adjacent structures. To mitigate this, we have in place a systematic maintenance programme for all street trees and those that have been identified as a potential risk. Occasionally, proactive tree management does not prevent subsidence damage occurring and it may be necessary to remove a tree.

Tree root related Insurance claims					
Year	2008/09	2009/10	2010/11	2011/12	2012/13*
Number of Insurance claims received	33	36	62	46	31
Amount paid (inc interim payments)	132,726	46,890	30,341	600	0
Number of open claims	4	14	32	31	30
Outstanding estimates	39,361	79,015	180,975	169,400	185,000
Number of trees removed	34	10	16	19	20

***** to date

The onus is on the owner of a property to prove a tree is an effective cause of subsidence damage. Currently, the Council will usually require the following evidence as a minimum to investigate a claim against one of its trees;

- An engineer's report detailing damage to building (location, nature, BRE category, crack monitoring, drainage survey)
- Plan and profile of foundations.
- Site plan indicating location of structure in relation to trees and other vegetation in the vicinity.

- Arboricultural report.
- Results of soil investigation tests confirming profile, moisture content, plasticity index, desiccation and tree root identification.

6.2 LTOA - Risk Limitation Strategy for Tree Roots Claims

In 2007, the London Tree Officers Association (LTOA) published the 3rd edition of their Risk Limitation Strategy for Tree Roots Claims. This is widely recognised as current best practice for managing tree related subsidence claims. The LTOA recommends that councils adopt the following strategy into its own Boroughs tree strategy. The LTOA Risk Limitation Strategy recommends that:

Publicly owned trees;

- Local Authorities instigate a regime of cyclical pruning of council owned trees in areas predisposed to building movement, where this is appropriate.
- Local Authorities provide dedicated resources for dealing with subsidence generated claims directed at council owned trees.
- Local Authorities instigate a regime of selective removal and replacement of street tree stock in areas predisposed to building movement, where this is appropriate.

Privately owned trees;

- Local Authorities provide dedicated resources for dealing with subsidence generated Conservation Area notifications and Tree Preservation Order applications.
- Local Authorities review all unsettled claims providing dedicated resources to challenge all unwarranted claims base on poorly investigated and inaccurate evidence or where in the case of preserved trees, The Town and Country Planning (Trees) Regulations 1999 can provide relief from the claim.

All trees;

- Local Authorities challenge unwarranted claims based on poorly investigated and inaccurate evidence.

The LTOA also recommends placing a monetary value on trees using CAVAT (Capital Asset Value for Amenity Trees), primarily as a way of valuing street trees in relation to a third party insurance claim. Once a tree is valued it will allow the Council to specify the level of evidence required to investigate an Insurance claim.

This forms the basis of the Joint Mitigation Protocol, which seeks to establish best practice in the processing and investigation of tree root related Insurance claims, benchmarking time scales for responses and levels of evidence.

It has been developed with the input of insurers, local authority tree and risk managers, loss adjusters, engineers and arboricultural consultants. Its principal aims are to

standardise the process of managing claims, while also recognising the value of trees in the built environment and providing local authorities with all the investigative evidence required at the beginning of the process. Trees that should be retained will be and claims will be processed quickly so resident's properties are repaired without unnecessary delay.

The Council currently follows the recommendations in the Risk Limitation Strategy for Tree Roots Claims.

7. Managing and maintaining Council owned trees

We currently have service level agreements with Single Frontline (Highways) and Homes for Haringey (HFH) to manage trees on land for which they are responsible. Trees under the ownership of the Parks service are currently maintained on a reactive basis. However, the action plan proposes that a proactive approach is introduced for parks trees. Qualified Arboricultural Officers respond to public and client enquiries and make recommendations on tree works. However, there are other Council services which have responsibility for trees on land they maintain. The Tree section provides professional advice to these services and will act on their behalf if requested to do so.

7.1 Council services that share responsibility for trees within the Borough

Listed below are the different council services that currently (2013) share responsibility for trees within the Borough.

Location of trees	Council service
Highway trees (inc, verges and car parks)	Single Frontline (Highways)
Housing sites (inc, supported accommodation)	Homes for Haringey
Parks, open spaces, woods and Nature conservation sites	Parks service
Educational site trees	Schools and Children's & Young Peoples services

7.2 The Councils Arboricultural team.

The Councils Arboricultural team will aim to provide a professional and reliable service to the public, all council members and other council services. We will ensure that all advice and recommendations are given in a clear and consistent manner. The current Arboricultural team consists of a manager and three officers. Their duties also include managing the Councils Allotment sites. Their key roles are;

- To manage inspections and surveys of the boroughs trees.
- To develop and maintain the computerised tree management system (so we have an accurate database which includes, location, species, age, size and maintenance history).
- To plan and monitor all planned and reactive tree works.

- To deal with public enquiries and complaints on tree related matters.
- To provide professional advice to other council services and ward members.
- To communicate with community stakeholders.

7.3 Tree maintenance contract

Haringey Council has a Framework Agreement in place for works to Council owned trees, which expires in 2014. There are four contractors listed in the agreement who carry out the vast majority of works.

7.4 Tree surveys

Trees are one of the only features of the urban environment that continually grow and change as they get older. Regular surveying allows the Council to maintain a record of the trees and identify any issues or problems at an early stage. It also allows us to defend insurance claims as we have a planned approach to tree inspection and maintenance, which fulfils our legal duty of care.

Main type of surveys;

- Visual condition survey, which identifies defects and potential hazards.
- Full survey, which involves taking measurements and recording a range of data, including any planned maintenance requirements and a valuation of the tree.
- TPO survey, to determine if a tree fulfils the criteria for statutory protection.
- Planting survey, to identify new planting sites and determine if vacant tree pits are still suitable for new trees.

Arboricultural Officers input the data collected from surveys into the computerised tree management system (Confirm). This system allows you to record a large amount of data on individual trees and retain a history of maintenance.

7.5 Planned Inspection and maintenance regimes

This is the most appropriate method to maintain trees in a safe and healthy condition. Having a planned approach reduces the risk of tree failure, nuisance to residents and is more effective in managing complaints.

Currently all street trees and those on Housing sites are subject to a planned inspection regime. Street trees are inspected on a three or four yearly cycle, dependent on species, location and risk of tree root damage. Trees managed on a three year maintenance cycle are London plane and Lime trees growing in close proximity to built

structures and have historically been managed as pollards. They are also predominantly in areas pre-disposed to subsidence damage. All other street trees are managed on a four year cycle. Trees on housing estates are inspected within a four yearly cyclical programme.

The four sites under the Forestry Commissions English Woodland Grant Scheme and those certified under the UK Woodland Assurance Standard should be subject to an annual health and safety inspection.

7.6 Reactive and emergency works.

Reactive works are carried out to manage risks to the public. They include felling dead trees, removing hazardous branches, clearing obstructions to sightlines and infrastructure, pruning tree roots to prevent trip hazards. They also include initial works in relation to a new insurance claim. Reactive works are carried out in response to enquiries from other Council Services, residents or where officers have identified them when travelling in the borough.

The Council has an emergency plan for severe weather conditions and has Arboricultural Officers on call 24 hours a day for any other tree related emergencies. Any calls from the public or the emergency services are recorded and then passed direct to an Arboricultural Officer, who will attend site within 1 hour and make an assessment of what works are necessary.

7.7 Reasons for tree pruning and felling

The type of pruning works undertaken depends on the trees location and its species. Minimal works will be undertaken in order to sufficiently manage the tree. This may often only involve removing the lower branches to increase clearance for pedestrians and vehicle traffic and/or cutting back the branches from adjacent buildings. A reduction of the height of the tree is usually undertaken for managing the potential risk of subsidence damage or where the tree has been managed by crown reduction historically.

The Council will try to avoid removing a tree or undertaking unnecessary pruning works where there is no good arboricultural reason. However, it may be necessary to remove a healthy tree in certain circumstances. If this is proposed, local residents and ward councillors will be notified in advance and given the reasons why. The Council will mitigate the loss of tree cover by ensuring replacement trees are planted. The number of replacements trees will be in relation to the size of the tree to be removed.

Tree removal or pruning will not be undertaken where;

- Trees are perceived to be too large.

- There is a perceived risk that subsidence damage may occur in the future.
- Satellite dish TV reception is interrupted.
- Sunlight may be blocked from reaching properties or gardens.
- Seasonal or naturally occurring events happen, e.g. falling leaves, fruit, seeds or berries, bird droppings, pollen allergies.
- Insects or other non-hazardous wildlife are present.
- Views are obscured.
- It is proposed to install a vehicle crossover (except in extenuating circumstances).

The Council will undertake tree works to fulfil its legal obligations to ensure the safety of the public and properties.

Pruning works will be undertaken where;

- There is an actionable nuisance to built structures, e.g. branches are in physical contact with walls, windows and gutters.
- Highways infrastructure (road signs, street lights, etc) and sightlines for vehicles and pedestrians are obscured.
- Previous maintenance regimes have determined that future works are of the same specification for that specimen, e.g. pollarding, crown reduction.
- Hazardous pests and diseases are evident (e.g. Brown Tail Moth).

Trees will be removed where;

- They are dead or visibly in decline. (Except in woodlands and other open spaces where they pose little risk to the public)
- An inspection has identified visible decay, fungal brackets indicating possible root and trunk decay or any other defect that would lead to the tree failing (see comments in brackets above)
- Evidence has been provided that they are a contributing factor in causing subsidence damage and proactive tree management has had no effect.
- They are causing damage to the public highway and pruning works have had no effect.

The installation of new CCTV cameras must take into consideration existing trees to prevent requests for unnecessary pruning works or the removal of trees to improve desired sightlines.

7.8 Recycling of green waste

Large quantities of green waste are generated by contractors carrying out tree works on behalf of the Council. Volumes produced are approx 80m3/ per week, however, volumes do vary from month to month. Wherever possible, we will recycle wood chips for use as mulch within our parks, open spaces and allotments. Green waste generated

from tree works in woodlands and conservation sites is usually left in situ to create wildlife habitats. Green waste is also recycled at registered waste sites, where it is turned into composting material.

8 Tree planting programme

One of the main objectives of the original Tree Strategy was to increase the number of trees in the borough. We committed to ensuring replacement trees were planted for all those removed and plant an additional 200 new trees each year to increase the total number of trees under Council ownership.

The priority areas for new tree planting were; existing vacant tree pits, areas where tree numbers were low and replacing dead or diseased trees. Requests from local residents for new trees in their road or area were also taken into consideration within the planting programme. The number of trees planted has been determined by the level of funding. Between 2008 and 2013, a total of 3,101 new trees were planted across all council sites. See Appendix 6 for number of new trees planted by council ward.

A survey of 250 trees planted in 2008 found that 90% of them were still in situ four years later. Current funding allows for one years maintenance after planting which including watering. We also return to each tree three or four year after planting to re-inspect them and remove the cages and stakes.

In recent years, the tree planting programme has been supported by a variety of funding streams including; the Mayor of London's street tree programme, the 'Making the Difference' scheme and Section 106 Agreements. The Council also matched this level of investment by providing a capital provision for 2007-2011. New tree planting has also been funded by private sponsorship from residents and local businesses. See Appendix 6 for a breakdown of funding received since 2007.

For the life of this strategy, we will be prioritizing planting replacement trees using current council funding. We will be seeking external funds (e.g. Mayor of London, Sec 106 agreements) for the planting of new trees in areas of deficiency.

8.1 Planting the 'right tree in the right place'.

Planting the 'right tree in the right place' is one of the principal objectives of the Mayor of London's Tree and Woodland Framework for London and the Government's Strategy for Trees, Woods and Forests. The careful selection of appropriate tree species and planting location is essential to minimise future nuisance issues and unnecessary maintenance costs.

The risk of subsidence damage to built structures has resulted in a reduction in the planting of larger forest type species which have a high water demand. The Council does however, recognise that large trees make a greater contribution in terms of environmental benefits and will be considered for planting in appropriate locations such

as in parks and open spaces, along transport corridors and in areas where the risk of subsidence is low.

8.2 Species selection.

The choice of tree species is dependent on location and local landscape character. A greater variety of trees can be planted in parks, open spaces and housing sites, species will be selected on suitability to setting, biodiversity value and visual appearance. The selection of street trees is guided by their mature size, water demand, crown shape and future management requirements. Appendix 7 contains a list of tree species suitable for street tree planting. The list is not definitive and additional species will be considered to mitigate predicted increased temperatures and where they have shown to be appropriate for street tree planting.

We have also planted new trees that produce edible fruits and nuts in primary schools, children's centres and housing estates. Planting fruits and nut trees helps to educate children about food production and will provide edible crops for local residents in the future.

8.3 Forward plan for tree planting

The table below shows the proposed plan for future tree planting. The number of trees planted in each ward will be determined by number of existing vacant pits and number of potential sites for new trees.

Forward plan for tree planting 2013-2018				
2013-14	2014-15	2015-16	2016-17	2017-18
Harringay	Highgate	St Anns	Alexandra	Harringay
Bounds Green	Muswell Hill	Tottenham Green	Bruce Grove	Crouch End
Hornsey	White Hart Lane	Tottenham Hale	Northumberland Park	Fortis Green
Seven Sisters	Woodside	West Green	Stroud Green	Noel Park

9 Community engagement

It is essential that local people play a part and feel engaged in the process of protecting and improving their local environment. For many years we have given prior notice to residents when trees are being felled and when planned works are scheduled. The annual maintenance programme for street trees is now published on the Councils website.

9.1 Public information on tree works

We will always give prior notice for the following works;

- Felling trees that appear healthy with a trunk diameter of over 7.5cm
- Pruning works that may appear contentious to the Council.
- New and replacement tree planting.

We will not usually give notice for the following works;

- Felling of dead trees or those in imminent danger of failing.
- Felling trees that appear healthy with a trunk diameter of less than 7.5cm

Timescales for notice will vary according to the type of work, whether it is urgent and the local significance of the tree. Notification will consist of a variety of methods, including emailing known residents associations and friends groups, notices being attached to trees and occasionally letter drops to adjacent properties. We will also email ward members when planned tree works and tree removals are scheduled within their ward.

The minimum standards for notice will be the following;

- A notice will be attached to a tree scheduled for removal at least fourteen days before work starts.
- Emails will be sent to known resident associations and ward members at least fourteen days before any scheduled tree removals.

9.2 Tree Warden scheme

The Council has developed a Tree Warden scheme to increase community participation and encourage greater community involvement in tree related matters. Tree Wardens can play an important role in caring for trees and promoting the wide range of benefits they provide. A total of 65 residents are registered as tree wardens and 40 have attended 3 or more training sessions to date. The aim of the scheme is to have trained Tree Wardens in every neighbourhood across the borough, helping to promote the benefits of trees in their local community.

There is an ongoing programme of training and seminars for Tree Wardens, which will be advertised on the council's website. Anyone interested in becoming a tree warden is welcome to come along. Attending regular events will increase wardens knowledge and skills so they feel confident to get involved in protecting trees and undertaking projects in their community.

10. Placing a monetary value on trees

Historically, the management of urban trees and woodlands has been seen only as a financial cost to the local authority. They rarely provide a saleable product and in contrast, usually require maintenance and may also be a liability in terms of damage to built structures or personal injury. The aesthetic benefits of trees and woodlands have long been accepted while showing no monetary value. However, more recently published data has recognised the need to change this outlook and place a value on individual trees and the urban forest as a whole. This is a fairly new area for tree management but one that merits significant attention due to the importance of trees in their role to mitigate climate change and provide other wide ranging environmental and

social benefits. Calculating the total value of an urban tree population will greatly raise its status in the Councils list of priorities and the view of the public.

The Capital Asset Valuation for Amenity Trees (CAVAT) system was introduced in 2007 and was primarily targeted at local authorities and publicly owned trees. It provides a method for managing trees as public assets as opposed to liabilities. It is based on the depreciated replacement value and also takes into account the contribution of location, social value and appropriateness, as well as an assessment of functionality and life expectancy. The Council has used CAVAT to assess the value of individual trees of high amenity value where their removal has been proposed by Insurance or Utility companies

The i-Tree system uses tree inventory data to calculate a value based on the annual environment and aesthetic benefits (energy conservation, air quality improvements, CO^2 reduction, storm water control and property value increases.

During the term of this document, it is proposed to calculate the value of the street tree population.

11 Tree Strategy Action Plan

1. To protect and enhance the Borough's natural environment.

Action no	Implementation	Measurement	Time frame
1.1	Plant at least 250 new trees each year ensuring we plant 50 more than we remove to continue the increase in Council owned tree stock	No of vacant tree pits planted with replacement trees No of new trees independent in the landscape 3 years after planting	Ongoing Ongoing
1.2	To encourage the active management of Woodlands and Conservation sites to protect and increase biodiversity	No of new native trees successfully established each year No of work days organised each year. Number of ancient woodlands under UKWAS certification (target of 3)	Ongoing
1.3	Create a record veteran trees	No of veteran trees recorded and mapped	Ongoing
1.4	Place a monetary value on street trees	No of street trees valued	2015-18
1.5	Continue with planting of trees that provide edible fruit / nuts	No of new trees planted each year	Ongoing
1.6	Plant large growing trees	No of new large trees planted each year	Ongoing
1.7	Review all existing TPOs	No of TPO's reviewed	2015-18
1.8	Support the development of Supplementary Planning Guidance (SPG) on trees on development sites	Adoption of new SPG by the Council	2015-18

2. To increase the pro-active management regime of Council trees.

Action no	Implementation	Measurement	Time frame
2.1	Develop the use Confirm Arboriculture for all council trees	Full use of system for all programmed and reactive works.	Ongoing
2.2	Introduce a cyclical inspection regime for Parks and Open Spaces	No of Parks and Open Space sites inspected and database updated.	2014-2018

3. To increase public involvement in the management of Council trees.

Action no	Implementation	Measurement	Time frame
3.1	To develop the Tree Warden scheme	No of Tree Wardens actively taking part in community events No of events held each year	Ongoing Ongoing

3.2	Review and update information on trees on Council website	Publish Tree Strategy on website	2014
3.3	Actively promote National Tree Week	No of events organised each year	Ongoing

4. To improve tree management and create a safer, healthier tree population.

Action no	Implementation	Measurement	Time frame
4.1	Produce annual report analysing maintenance, removals and planting of trees	Report completed and made available to Council members and published on website	Ongoing
4.2	Monitor trees that may be affected by new pest and disease outbreaks	No of trees monitored and details recorded	Ongoing
4.3	Ensure all officers continue with professional development	No of seminars and courses attended	Ongoing

5. To encourage other agencies to adopt the Tree Strategy.

Action no	Implementation	Measurement	Time frame
5.1	Send copy of consultation document to other agencies in the borough	No of organisations adopting the Tree Strategy	2018

13. Appendices (Contents)

Appendix 1 Wider policy context

A range of Local, Regional and National Policies are relevant to the preparation of this document. The responsible management and enhancement of trees, woodlands and natural spaces will enable the aims and objectives of all those policies detailed below to be met.

Local Strategies

Sustainable Community Strategy (LBH 2007)

This was adopted in June 2007 and outlines the aspirations, challenges and opportunities facing the borough over the next ten years. It sets out the Council's vision;

- 'A place for diverse communities that people are proud to belong to' and the desired outcomes which include;
- An environmentally sustainable future.
- Healthier people with a better quality of life.

Core Strategy (LBH 2012)

Replacing the Councils Unitary Development Plan, the Core Strategy is the new plan for the future development of the borough up to 2026. It sets out how the council will deliver a better choice of high quality design, better community facilities, and more attractive and safer streets and parks. Specific policies are included in chapter 06: Safer for all, that are relevant to this document, they include;

- SP 11 (Design) - Promote high quality landscaping on and off site, including improvements to existing streets and open spaces.
- SP 12 (Conservation) – Preserve and enhance the character of Conservation Areas and their setting.
- SP 12 (Conservation) – Promote the conservation, protection and enhancement of historic parks and gardens.
- SP 13 (Open Space and Biodiversity) – Protection, management and maintenance of existing trees and the planting of new trees where appropriate.

Greenest Borough Strategy (LBH 2008)

The Greenest Borough Strategy was adopted in 2008 and sets out how the council will implement actions to tackle climate change and ensure environmental sustainability is central to all that the council does. The tree strategy will play a key role in achieving a number of the priorities identified in the Community Strategy, specifically:

- To protect the natural environment.
- To tackle climate change and reduce carbon emissions.

- To continue to improve our excellent parks and open spaces.

Development Management Document (LBH 2010)

The Development Management Document supports the Local Plan through more detailed policies, which will be used to assess and determine planning applications. The policies will assist in delivering the objectives of the Council's Local Plan and the London Plan. The Development Management Document is in line with the objectives set out in the Council's Local Plan and the Sustainable Community Strategy. DMP 29: outlines the policy on Tree Protection

The Council will seek to protect existing trees and improve the contribution of trees, tree masses, and spines to local landscape character, by:

- making tree preservation orders as appropriate ;
- encouraging tree planting wherever possible and appropriate;
- ensuring that road proposals and traffic management schemes are adequately landscaped where appropriate with new trees;
- ensuring that, when unprotected trees are affected by development, a programme of tree replanting and replacement of at least equal amenity and ecological value and extent is approved by the Council;
- and giving stronger protection to and recognising the value of ancient woodland areas in terms of their historical, cultural and biodiversity contribution to the borough;
- and ensuring that tree planting does not damage underground utility infrastructure with encroaching root systems.

Biodiversity Action Plan (LBH 2010)

The Haringey Biodiversity Action Plan (BAP) aims to improve biodiversity value across the Borough and support the priorities and targets of both the London and UK plans. In addition to specific actions on selected habitats and species the document includes details on how the London Borough of Haringey will meet its 'Biodiversity Duty' as set out in the 'Natural Environment and Rural Communities Act 2006':

The protection of existing tree and the planting of new ones will help to meet many of the BAP's targets including amongst others;

- To protect and conserve Haringey's veteran trees.
- To improve biodiversity value on housing land
- To plant new woodlands in areas of deficiency.
- UKWAS target.

Air Quality Action Plan (LBH 2011)

The Air Quality Action Plan adopted in 2011 sets out how the council intends to fulfil its obligations for air quality management and how they will monitor its effectiveness. The huge benefits that trees provide in helping to improve air quality are widely known. Therefore, maintaining and enhancing a sustainable tree population in the borough will increase those benefits further.

2.2 Regional Strategies

- London Plan (GLA 2011)
- Green Infrastructure & Open Environments: Preparing Borough Tree & Woodland Strategies - Draft SPG (GLA 2012)
- Tree and Woodland Framework for London (GLA 2005)

London Plan (GLA 2011)

The London Plan highlights that London will continue to grow and that new development needs to provide people with a high quality environment and one that adapts to the effects of climate change and enhances rather than degrades our landscape or its biodiversity. It recognizes that protecting, managing and enhancing trees and woodlands will improve the quality of life for all Londoners.

It contains six objectives, three of which are directly relevant to trees and woodlands;

- A city of diverse, strong, secure and accessible neighbourhoods – a high quality environment for everyone to enjoy must include trees and woodland.
- A city that delights the senses – making the most of and extending the wealth of open and green spaces and waterways, realizing its potential for improving Londoner's health, welfare and development – the delivery of trees and woodland will help to achieve this.
- A city that leads the world in improving the environment, with climate change being central to everything we do.

Tree and Woodland Framework for London (GLA 2005)

In 2005, the Mayor of London produced 'A Tree and Woodland Framework for London'. It emphasized the important part trees play in the character and identity of the city, making it one of the world's greenest. The overall goal of the framework was to ensure that;

- The existing stock of trees and woodlands is managed and maintained to safeguard its value to London both now and in the future.
- There is an increased awareness of the value of trees and woodlands to the health and well being of all Londoners.

- The contribution of trees and woodlands to London's sustainability and quality of life is maximised.
- Natural regeneration and new planting in appropriate locations is encouraged to further enhance the contribution of trees and woodlands to London life.

In 2006, the Mayor of London produced 'London's Urban Heat Island, A Summary for Decision Makers. This report noted that temperatures are often warmer in the city than surrounding rural areas, this phenomenon is known as the 'Urban Heat Island'. It also noted that overnight temperatures in London can be up to 9C higher, than areas outside of the city. The extremity and frequency of such events is likely to increase as a result of the predicted impacts of climate change over coming decades.

The report recommended a number of measures to mitigate the heat island effect, which included the planting of trees and other vegetation. Trees are identified as 'good modifiers of climate' not only providing shade but acting as natural cooling systems when the water they have absorbed is evaporated from its leaves during the process of transpiration.

2.3 National Strategies

Trees in Towns 2, a study of Local Authorities' tree services by Dr Mark Johnson for the Department of Communities and Local Government was published in 2008. It highlights the importance of having a 'working' tree strategy and offers guidance on preparation and ensuring its implementation. The key recommendations are:

- The tree strategy should be based on a good knowledge of the existing tree population and the conditions in which it grows.
- The process of strategy preparation should have political and community support.
- It should be linked to other aspects of the urban environment and other relevant strategies.
- It should cover all aspects of the LA's tree programme and the urban forest, including both public and privately owned trees and woodlands.
- Ensure widespread and effective consultation on the draft strategy document.
- It should not just include policies towards trees but also an action plan to ensure implementation.
- It should be adopted as LA policy.
- Ensure regular monitoring and review of the strategy.

Appendix 2 Tree management published guidance.

The council will aim to work in accordance with industry published guidance to ensure trees in the borough are maintained properly, adequately protected and provide their many benefits. Officers will ensure they are up to date with the latest research and refer to best practice when explaining decisions.

- British Standard 3998:2010 - Tree work.
- British Standard 5837:2012 - Trees in relation to design, demolition and construction.
- The Law of Trees, Forests and Hedgerows – Charles Minors.
- Tree Roots in the Built Environment – John Roberts, Nick Jackson & Mark Smith.
- Principals of Tree Hazard Assessment and Management – Dr David Lonsdale.
- Diagnosis of Ill Health in Trees – RG Strouts & TG Winter.
- The Body Language of Trees: A Handbook for Failure Analysis – Dr Claus Mattheck.
- Fungal Strategies of Wood Decay in Trees – FWMR Schwarze, J Engels and Claus Mattheck.
- Manual of Wood Decays in Trees – K Weber & C Mattheck.
- Subsidence of Low Rise Buildings – Institution of Structural Engineers.
- Tree Root Damage to Buildings – PG Biddle.
- Arboricultural Research and Practice Notes – Arboricultural Advisory & Information Service.
- Risk Limitation Strategy for Tree Root Claims - London Tree Officer Association.
- NJUG 10: Guidelines for the Planning Installation and Maintenance of Utility Services.
- National Plant Specification - GoHelios.co.uk.
- Managing Ancient and Native Woodland in England – Forestry Commission.
- Woodland Management for Bats – Forestry Commission.
- Managing Trees and Woodlands for Bats in London – Forestry Commission.
- UKWAS 3rd Edition (3.1) – UKWAS.

Appendix 3 Legislation that affects trees

Like any other tree owner, the Council must abide by the law and work in accordance with the relevant legislation. The main ones that govern the management of urban trees are listed below.

- The Town and Country Planning Act (as amended) 1990
- The Town and Country (Tree Preservation) (England) Regulations 2012.
- Common Law (relates to tree ownership, nuisance, hazardous trees, etc).
- Local Government (Miscellaneous Provisions) Act 1976.
- Anti-Social Behaviour Act 2003 (High Hedges).
- Occupiers Liability Act 1984.
- Health and Safety at Work Act 1974.
- Construction (Design and Management) Regulations 1994
- The Highways Act 1980.
- New Roads and Street works Act 1991.
- The Wildlife and Countryside Act 1981.
- Conservation (natural habitats etc) Regulations 1994.
- Countryside and Rights of Way Act 2001.

The Town and Country Planning Act 1990

Sections 197 and 198 of the above act require local authorities to ensure that in granting planning permission for development, adequate provision is made for the protection, preservation and planting of trees. It gives powers to LB Haringey, to make Tree Preservation Orders (TPO's) to prevent trees being cut down, uprooted, topped, lopped, wilfully damaged, or wilfully destroyed without our consent. TPO's are usually made where the trees provide a significant contribution to the local environment and can be appreciated by the public.

Section 211 of the above act, the local planning authority requires six week's notice of any tree works within a Conservation Area. The legislation covers trees with a stem diameter of 7.5cm measured at 1.5m from ground level.

Tree Preservation Orders (TPO's)

Anyone proposing to carry out works to a tree subject to a TPO must seek permission from the local planning authority. An application form must be completed to include; identity of tree(s), their location, detailed description of the works and the reasons for the works. The Council will usually inspect the tree to determine if the works are reasonable, if not we may recommend alternative works or refuse consent. If consent is given to fell a tree subject to a TPO, a condition is usually made, where a replacement tree must be planted and will in turn be protected.

If a tree protected by a TPO is pruned, felled or wilfully damaged without Council consent, the person who carried out the works is liable to be prosecuted and up to £20,000 in a Magistrates Court. More serious offences may be taken to the Crown

Court, where fines may exceed £20,000. Where it is proposed to remove a dead or dangerous tree, prior permission is not required, however, it is advisable to seek advice from the Council and give five days notice before carrying out such work (except in an emergency).

Section 214 of the TCPA 1990 requires local planning authorities to maintain a register of tree work notices in Conservation Areas and tree work applications for trees subject to a TPO. The Council complies with this duty by publishing TPO works on its website. Details of tree works in Conservation Areas are available by contacting the Planning Service. Information regarding existing TPO's is also available via the mapping link on the Council website.

The Highways Act 1980

Section 130 of the above act places a duty on the Highways Authority (the Council) to protect the rights of the public to use and enjoy the highway. This means that we will carry out any necessary work to ensure Council owned trees do not cause an obstruction or nuisance to pedestrians or road users.

Section 154 of the above act allows the Council to serve notice on the owners of trees or hedges, which overhang the highway and obstruct access, sightlines or street lamps. The notice will require trees or hedges to be cut back to provide the necessary clearance and abate any nuisance. If the owner does not respond within the relevant timescale, the Council may carry out the works themselves and recover the costs from the owner. Clearance must be 2.3m above the footway or verge and 5.3m above roads.

If the tree is protected by its inclusion in a Conservation Area or subject to a Tree Preservation Order, the legislation exempts the need to give prior notice or seek consent from the Council, provided that only the minimum amount of pruning is being carried out to comply with the requirements of the Highway Act 1980.

Section 132 of the above Act 1980, makes it an offence to erect a notice or letter on a street tree, with offenders liable for a fine. Notices advertising services or events are regularly attached to trees using drawing pins, staples and even nail-guns. This can cause damage to trees especially young specimens and provide entry points for decay fungi and diseases.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act 1981 and the more recent Countryside and Rights of Way Act 2000 make provision for the protection of wildlife in the UK. In relation to trees, these acts cover all wild birds and bats.

All British bat species are protected under section 5 of the WCA 1981, as updated by the CRWA 2000. All British bat species are also afforded European protection by their inclusion in section 2 of the Conservation Regulations 1994. These three pieces of legislation together make it an offence to;

- Intentionally or recklessly kill, injure or capture bats.

- Deliberately or recklessly disturb bats (whether in a roost or not).

- Damage, destroy, obstruct access to a bats roost (whether they are present or not).

It is essential, therefore, that trees are inspected for signs of a bats roost, prior to the start of any tree works. If bats are known to be present or it is likely they are, expert advice must be sought and a license may be necessary from English Nature. Roosts must not be disturbed at any time.

Section 1 of the WCA 1981, affords protection throughout the breeding season to all wild birds, their nests, eggs and chicks. Works to trees where nests are present should be postponed until the end of the breeding season (usually March to August).

Common Law (Duty of Care)

All owners of trees, including Haringey Council, have a duty of care to ensure trees on its land are maintained in a safe condition. Reasonable care must be taken to minimise the risk of injury to people and damage to property. Appropriate action will be taken where hazards are evident.

In relation to privately owned trees, all land owners should have them checked periodically for obvious safety problems and be aware if they are a risk in terms of damage to adjacent properties.

Anti-Social Behaviour Act 2003

Section 8 of the above act gives local authorities in England powers to deal with complaints about high hedges. Complainants can take their case to the Council to investigate after they have exhausted all other avenues to try to resolve it. The hedge must comprise of at least two semi-evergreen trees. The Act does not provide for complaints about individual evergreen trees.

Appendix 4 Tree related enquiries

All calls from the public regarding trees will be dealt with initially, by the Councils Customer Service Centre.

Customer Service Procedure

After receiving an enquiry, a Customer Service advisor will require the following information;

- Customers name, address and contact details.
- The exact location of the tree(s) the enquiry is about.
    - Trees on highways.
    - Trees in parks, open spaces, woodlands and conservation sites.
    - Trees in housing estates and supported housing sites.
    - Trees in individual housing properties.
    - Trees in schools.
- The nature of the enquiry is confirmed (e.g. tree roots causing a trip hazard, etc).
- The customer is advised of general information about trees (e.g. pruning policy, annual pruning programme) as found on the Councils website.
- If the customer enquiry has not been resolved, the information will be entered into the customer service database, a reference number will be given and the details sent to the relevant officer.
- Information from customers regarding tree related emergencies will be given to Tree Section immediately.
- It will be allocated to an Arboricultural Officer who will investigate the query, make a site visit, if necessary, and respond to the customer within 10 working days.

Appendix 5 Tree maintenance operations

Pruning trees can help resolve health and safety issues, reduce the risk of tree root damage and also increase a trees life expectancy. However, pruning can also result in vigorous new growth and increase the amount of regular maintenance a tree requires. Industry published guidance states that the best time to prune trees are during their dormant period in winter. An alternative is to prune in mid-late summer, when wood moisture is fairly high and food reserves have been re-stored after depletion in the spring.

However, due the high volume of tree maintenance required in the borough, we may have to undertake pruning works all year round, but we do take into consideration, the tolerance to pruning related to different tree species.

The following operations, carried out individually or jointly, should be sufficient to manage the majority of trees.

Formative pruning

The objective of formative pruning is to produce a clean stemmed tree and the establishment of a good branch structure and canopy by the removal of a number of small branches leaving only small wounds, which will occlude within a year or two. Formative pruning is also carried out for fruit production in orchard areas.

Cleaning out and dead wooding

Cleaning out is defined as the removal of dead, dying or diseased wood, broken branches or stubs left from previous works. It will also include removing any unwanted objects, such as ivy and/or other climbing plants, nails, redundant cable bracing, rope swings, tree houses and wind-blown rubbish. Dead wood is of importance to wildlife and will be retained in the canopy, if safe to do so, or stored on site nearby.

Crown lifting

Crown lifting is the removal of branches or parts thereof to increase clearance beneath the tree and is most commonly used to clear obstructions over footways and roads.

Removal of epicormic growth

This is the removal of all shoots that grow from the base of the tree or its lower trunk. Most commonly found on Lime trees and some ornamental species. This operation may also be specified to clear obstructions of footways and roads.

Crown thinning

Crown thinning is defined as the removal of a proportion of the small secondary branches within the crown of a tree. It reduces the density of the crown but will retain its overall shape. This operation will result in more light to penetrate the crown and increase wind flow through it, reducing the impact of storm damage.

Crown reduction

Crown reduction is defined as the reduction in the overall shape and size of a tree. This operation is specified where trees have outgrown their location and where they have been managed like this historically. It is also used to reduce the likelihood of tree root damage in areas prone to subsidence. Crown reduction alleviates biomechanical stress by reducing both the weight and mass of a tree.

Pollarding and re-pollarding

Trees are usually subject to pollarding when they are young and it involves the cutting back of all branches to the same height, approximately 1-2m above the trunk. Once a tree has been pollarded, it needs to be pruned on a regular basis (re-pollarding), back to just above the previous pruning cuts. Many of the London plane and Lime trees planted in avenues close to buildings are maintained by re-pollarding.

Tree felling

Tree felling will take place where trees are dead, dying or in a dangerous condition. The Council try to avoid felling healthy trees, but occasionally, they may be removed in the following circumstances,

- Where trees have caused damage to buildings or the public highway and remedial pruning is not a practical option (e.g. severe subsidence damage).
- Where the detrimental impacts and ongoing maintenance costs of the tree outweigh the benefits it provides. Prior to removing trees for this reason, consultation will take place with local residents and ward members.
- Where the works will benefit trees of a higher amenity value (e.g. trees are suppressing or shading a more significant specimen in a woodland).
- Where the works will increase ecological value within a woodland by reducing shade over meadows, ponds, etc.
- Where an approved planning application or necessary development works require a tree to be removed.

Appendix 6 Tree planting data.

Since 2008, the tree planting programme has aimed to target four different wards each year. Tabled below is the total number of trees planted in each ward in the last five years (targeted wards are highlighted). It includes street trees and those planted in parks and housing sites. In 2010/11, a reduced amount of capital money was available, so the planting was spread across more than four wards.

Tree planting by ward 2008-2013 ALL SITES						
Council ward	2008/09	2009/10	2010/11	2011/12	2012/13	Total per ward
Alexandra	**73**	12	31	19	**57**	192
Bounds Green	62	17	5	7	0	91
Bruce Grove	2	2	17	**47**	0	68
Crouch End	24	33	19	5	**48**	129
Fortis Green	**64**	5	0	17	**31**	117
Harringay	54	100	7	2	7	170
Highgate	5	**42**	10	11	30	98
Hornsey	31	54	9	4	12	110
Muswell Hill	28	42	10	18	16	114
Noel Park	20	**70**	23	17	**55**	185
Northumberland Park	**44**	186	30	5	2	267
Seven Sisters	**75**	17	25	4	4	125
St Anns	18	4	14	**50**	26	112
Stroud Green	10	53	22	**49**	19	153
Tottenham Green	106	**134**	36	11	11	298
Tottenham Hale	171	21	71	27	30	320
West Green	12	14	42	**85**	0	153
White Hart Lane	1	**67**	36	3	8	115
Woodside	111	69	42	26	36	284
Total per year	911	942	449	407	392	3,101

Tree planting by ward 2008-2013 - Street trees ONLY						
Council ward	2008/09	2009/10	2010/11	2011/12	2012/13	Total per ward
Alexandra	73	8	28	20	57	186
Bounds Green	13	10	0	7	0	30
Bruce Grove	2	2	14	47	0	65
Crouch End	21	28	17	4	47	117
Fortis Green	60	4	0	17	31	112
Harringay	54	95	7	2	7	165
Highgate	4	26	6	9	30	75

Hornsey	24	35	6	4	11	80
Muswell Hill	23	26	10	18	17	94
Noel Park	20	62	10	17	55	164
Northumberland Park	42	133	18	4	2	199
Seven Sisters	79	9	14	4	0	106
St Anns	22	4	4	49	13	92
Stroud Green	1	23	9	48	19	100
Tottenham Green	97	91	26	11	10	235
Tottenham Hale	164	14	67	5	4	254
West Green	12	12	0	78	0	102
White Hart Lane	0	37	10	0	3	50
Woodside	57	46	27	24	2	156
Total per year	768	665	273	368	308	2,382

Outlined below is the source and amount of funding the council received for tree planting between 2008 and 2012.

Source of funding	2008/09	2009/10	2010/11	2011/12
Council capital provision	80,000	120,000	15,000	30,000
Mayor of London	51,625	35,306	67,551	9,150
Section 106 agreement	31,250	53,800	0	0
Making the Difference	31,250	35,750	9,545	8,750
Homes for Haringey	7,500	19,250	10,000	6,500
Private sponsorship	1,190	1,700	1,700	1,020
Highway infrastructure projects	0	0	0	21,275
Thames water	0	0	0	7,540
Total	202,815	265,806	103,796	84,235

Appendix 7 List of tree species suitable for street tree planting

The selection of street trees is guided by their mature size, water demand, crown shape, future management requirements and suitability to the location. The following criteria must be considered for species selected for street tree planting in close proximity to built structures.

- low water demand
- non-aggressive root system
- small or compound leaves
- upright form
- tolerant to urban stress and pollution
- small fruits

Examples of small to moderate sized species include:

Latin name	Common name	Height at maturity
Acer campestre (Cultivars)	Field maple	10-15m
Amelanchier arborea 'Robin Hill'	Serviceberry	5-10m
Betula albosinensis 'Fascination'	Chinese Birch	10-15m
Betula nigra	River Birch	10-15m
Carpinus betulus 'Frans Fontaine'	Fastigiate Hornbean	10-15m
Crataegus monogyna 'Stricta'	Hawthorn	5-10m
Crataegus X prunifolia	Broad-leaved Cockspur Thorn	5-10m
Crataegus X lavalleii	Hybrid Cockspur Thorn	5-10m
Ligustrum japonicum	Japanese Tree Privet	5-7m
Malus trilobata	Crab Apple	5-7m
Prunus Accolade	Flowering Cherry	5-10m
Prunus incisa 'Louisa Leo'	Flowering Cherry	5-10m
Prunus pandora	Flowering Cherry	5-10m
Pyrus calleryana 'Chanticleer'	Ornamental Pear	10-15m
Sorbus aucuparia 'Sheerwater Seedling'	Rowan	10-15m
Sorbus aria 'Lutescens'	Whitebeam	7-10m
Sorbus discolor	Chinese Rowan	7-10m
Sorbus intermedia 'Brouwers'	Swedish Whitebeam	10-15m
Sorbus x thuringiaca 'fastigiata'	Rowan Hybrid	7-10m
Tilia cordata 'Greenspire'	Small leaved Lime	10-15m
Tilia mongolica	Mongolian Lime	7-10m

Trees with a larger mature size will also be planted as street trees when appropriate to the location. Examples of large growing species recently planted in Haringey include:

Latin name	Common name	Height at maturity
Betula ermanii	Ermans Birch	15-20m
Betula pendula	Silver Birch	15-20m
Castanea sativa	Sweet Chestnut	15-20m
Gingko biloba	Maidenhair tree	15-20m
Juglans regia	Walnut	15-20m
Liquidambar styraciflua	Sweet Gum	15-20m
Liriodendron tulipifera	Tulip tree	20m +
Platanus x hispanica	London plane	20m +
Quercus ilex	Holm Oak	20m +
Quercus robur	English Oak	20m +

Planting stock

The vast majority of new trees planted will be of advanced nursery stock; that is trees with a stem circumference of between 12-16cm and a height of 3-5m. New tree stock will be predominantly container grown which usually establish in a shorter time period.

Appendix 8 Tree pests and diseases

Chalara dieback of Ash

This is the most recent disease that threatens trees in the UK. It is caused by a fungus called *Chalara fraxinea* and once Ash trees are infected, it results in the loss of leaves, crown dieback and usually leads to tree death.

It was first identified in February 2012 when it was found in a consignment of infected trees sent from a nursery in the Netherlands to a nursery in Buckinghamshire, England. Since then it has been found in a number and variety of locations in Great Britain, all of which had received stocks of young ash plants from nurseries within the past five years.

More recently its presence has been confirmed across the south east of England in the wider natural environment, including established woodland, which do not appear to have any association with recently supplied nursery stock. *C. fraxinea* is being treated as a quarantine pest under national emergency measures. A ban on the import of ash trees and movement of them around the country is in place. Immediate action is being taken to remove and destroy infected trees found in nurseries or in recently planted sites. Where infection is found in mature trees, the current scientific advice is to leave them where they are as infection does not spread directly between trees, but only via the leaf litter. The scientific advice is that it won't be possible to eradicate this disease now that we have discovered it in mature trees in Great Britain. There are currently no confirmed cases of the disease in the Greater London area.

Oak Processionary Moth (*Thaumetopoea processionea,* OPM),

This was first found in trees in the west and south west of London in summer 2006, and has been breeding in Oak trees in several locations across five London Boroughs in the area. By July 2012, OPM had been also found in the London Boroughs of Wandsworth, Merton and Kensington & Chelsea, Bromley and Croydon. It is thought the Bromley/Croydon population is likely to be a separate, new outbreak rather than an extension of the west London outbreak. To date, it has not been recorded in Haringey or any of our neighbouring boroughs.

The moth's caterpillars pose two problems. They severely defoliate Oak trees by feeding on the leaves and they are also covered in tiny hairs which are sharp, barbed and contain a toxin called thaumetopoein which can cause irritation and allergic reactions.

The Forestry Commission announced in 2011 that eradication of the West London outbreak was no longer possible, and their ongoing objective is to prevent or slow its spread and keep its population as low as possible. Surveys of the affected London Boroughs have been carried out each spring and summer since the outbreak was first discovered, and the larvae and nests found have been removed.

Acute Oak decline (AOD)

AOD is a relatively new condition of Oak trees in Britain, thought to have started 20 - 30 years ago but now appears to be on the increase. Mature trees of both native Oak species (*Quercus robur*, known as pedunculate or english Oak, and *Quercus petraea* - sessile Oak) are affected. The cause of the problem is thought to involve several factors. Early investigations have noted that the Buprested beetle (*Agrilus biguttatus)* is often found together with various species of bacteria on trees with symptoms of AOD.

Affected trees are characterised by symptoms of extensive stem bleeding evident as dark weeping patches on the stem surface between bark plates.

In contrast to chronic oak decline, some of the trees affected with AOD die within 4 to 5 years of the onset of symptoms. In the early stages of this condition no changes in canopy health are noticeable but as trees approach death canopies may be visibly thinner.

There have been a growing number of reports of AOD in recent years on oak trees with symptoms of stem bleeding. In 2012, it is estimated that a 2-3 thousand Oak trees are affected. The condition appears to be most prevalent in the Midlands and the south east. Further research is being carried out to investigate the method of infection and what control measures may be put in place.

Massaria Disease of Plane (MDP)

MDP is a recent problem affecting the capital's London plane trees, which, though not particularly harmful for tree health, causes branches to occasionally decline, die and fall. It is thought to be a host specific fungus that occurs naturally in Planes, in a latent (endophytic) form, with decay developing in certain affected branches. The LTOA are currently developing a guidance document for tree managers providing a balanced and proportionate response to the problem because the unnecessary pruning or felling of London's plane trees would be significantly detrimental to both the tree and human populations of London. Symptoms of the disease are not typically seen in trees that are subject to regular pruning, such as street tree pollards.

Horse chestnut bleeding canker

In recent years, the number of reports of Horse chestnut trees with 'bleeding cankers' has increased markedly and is found throughout England. Early symptoms tend to be scattered drops of rusty red, brown or almost black, sticky liquid which ooze from patches of dying bark on the trunk or main branches of infected trees. The cankers are caused by a pathogen called *Pseudomonas syringae* pv *aesculi*. Trees of all ages have been affected by the disease, but the impact on the environment can be particularly profound when large, mature trees are infected and disfigured by the disease. If the disease is severe and the areas of bark which are killed are extensive, large trees can undoubtedly be killed. However, younger trees (10-30 years old) are at greater risk and

can succumb to the disease in just a few years as the smaller diameter of their trunks means that they can be girdled more quickly. In Haringey, we have removed approximately 20 Horse chestnut trees which have either died or found to be in severe decline as a direct result of infection by bleeding cankers.

Horse chestnut leaf miner

The Horse chestnut leaf miner (*Cameraria ohridella*) was first found in the London Borough of Wimbledon in 2002. In recent years its range has expanded and it can now be found at many locations in throughout England. The moth can cause severe damage to the leaves of horse chestnut trees on an annual basis, and lead to defoliation in late summer. The larvae mine within the leaves and at high population densities they can destroy most of the internal tissues. Despite the poor appearance of horse-chestnut trees infested with Horse chestnut leaf miner, there is no evidence that the damage caused leads to a decline in tree health. Trees survive repeated infestations and re-flush normally the following year. It appears that most of the damage occurs too late in the growing season to have a detrimental impact on trees. Consequently, there is no reason to fell and remove trees just because they are attacked by moth larvae. Damage can be reduced by removing fallen leaves during the autumn and winter and either composting them thoroughly, or burning, to destroy the over-wintering pupae.