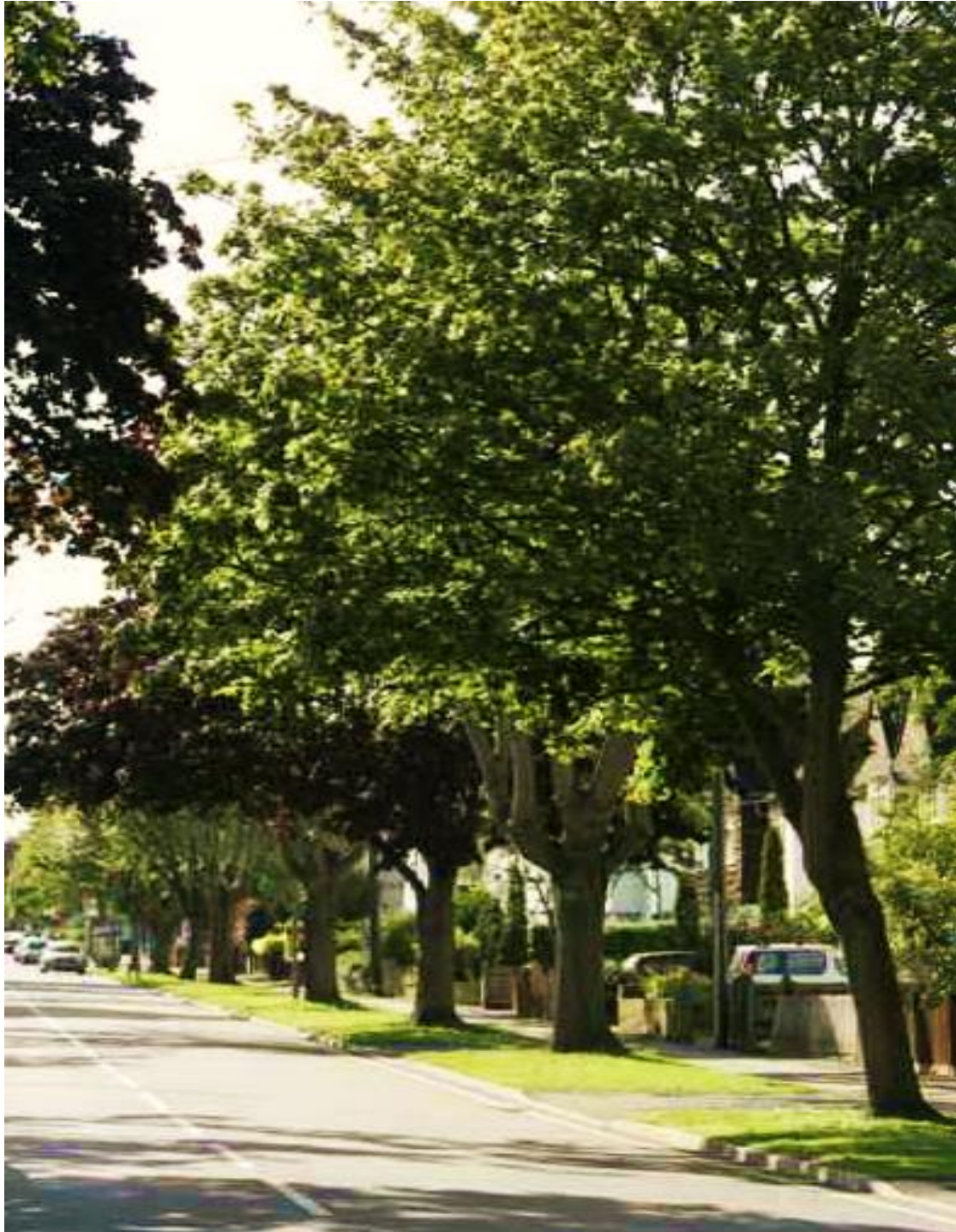


**LONDON BOROUGH OF BROMLEY
TREE MANAGEMENT STRATEGY
2016 – 2020**



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Foreword

The London Borough of Bromley currently directly manages the largest local tree resource within one of the world's greatest urban forests. The Borough contains the largest number of street and park trees, and is also home to two thirds of London's woodlands, much of which residing in LBB's in excess of 552 hectares of woodland and conservation sites. Therefore in a period of change and reorganisation, it is vital that this resource is given thoughtful consideration with reference to its most effective management going forward.

Councillor Colin Smith

Executive Councillor for Environment

Executive Summary

Bromley's Tree Strategy has been prepared in response to National, Regional and Local policy frameworks that necessitate the creation of borough-wide tree strategies and accentuate the importance of protecting, maintaining and enhancing trees and woodlands. An overarching principle of existing policy is the principle that all Bromley's trees and woodlands, both in public and private ownership, should be considered as a single 'urban forest'.

This Strategy considers the benefits and importance of maintaining trees, reviews the existing Policy framework and examines the Borough context including the ownership of Bromley's trees. This draws attention to the legal 'Duty of care' that requires both Council and private tree owners, to minimise the risk to people and property resulting from trees on land in their ownership and/or management. Also highlighted are the challenges trees face in the built environment, as well as the importance of protecting trees, ensuring the Borough's many woodland and conservation sites are continued to be managed consistent with best practice, whilst seeking opportunities for further development. This will be achieved through the implementation of 25 policies, with which Bromley sets out how it will manage the publicly owned tree resource, as well as protecting and seeking to enhance trees and woodlands in private ownership. The background information and discussion in Sections 2 to 5 (Appendices) provide the understanding and justification for the vision, objectives and policy of the document.

The success of this document will rely upon and be monitored by the completion of actions and accomplishment of performance measures. The Council's Trees and Woodland Team will report annually on key performance indicators and any notable successes.

Why have a Tree Strategy?

- To promote awareness of the value of trees in our environment.
- To interpret the London-wide policy framework on trees set by the Countryside Commission
- To give direction and guidance to local initiatives; both public and private.

Legal Responsibility

Statutory obligations dictate how the Council must manage trees that are within areas of its control; these are principally the Highways Act 1980 and the Occupiers' Liability Act 1957 & 1984. Statutes such as The New Roads and Streetworks Act 1991; Health and Safety at Work Act 1974 and the Wildlife and Countryside Act 1981 govern how contractors working within the Borough must operate. The Town and Country Planning Act 1990 places a duty upon the Council to assess the impact of tree loss within the Borough; where the loss is likely to have a significant impact upon the local and wider landscape the Local Authority must consider protecting trees through the Tree Preservation Order (TPO) process.

In addition, the Council has a wide range of case/common law precedent from which to draw on to inform policy and practice; according to the tort of nuisance and of negligence the tree owner owes a duty of care in common to all who might be injured by the tree if failure in part or in whole might occur. In definition this requires taking reasonable care to avoid acts or omissions which cause a reasonably foreseeable risk of injury to people or property.

Bromley's Publicly Owned Tree Stock

Total registered trees:	71,079
Street trees:	36,041
Park trees:	24,406
School trees:	5,264
School Academy trees	5,368

In addition LBB manages hundreds of thousands of trees across 552 hectares of publicly owned woodland and conservation sites.

Aims and Objectives

Bromley's Aim is:

To ensure trees are planted, preserved and managed in accordance with good arboricultural practice, with regard to their contribution to amenity and the urban landscape, for both current and future generations.

In order to realise this Aim the following Strategic Objectives (SO) have been adopted:

SO 1. To manage the existing tree stock in accordance with good arboricultural practice.

SO 2. To maintain a general presumption against the removal of trees, allowing felling only in accordance with good arboricultural practice, and to ensure that adequate and appropriate replacement planting takes place where planting is desirable, aesthetically necessary and sustainable.

SO 3. To recognise the relationship between trees and the built environment and promoting the 'Right tree, right place' philosophy for new and replacement planting.

SO 4. To continue to ensure protection of trees subject to Tree Preservation Orders and in Conservation Areas, with trees to be retained on development sites and to require high standards of replacement tree planting. LBB will also initiate prosecution where unauthorised tree work has taken place, or to take enforcement action where breach of planning permission has occurred where it is expedient to do so.

SO 5. To promote the value of trees to residents, businesses and developers through good management and education, and explore ways for greater involvement, consultation and protection of trees and woodlands.

The Benefits of Trees

The many benefits of street trees in the urban environment including aesthetic value, carbon and pollution capture and storage, the role in Sustainable Urban Drainage Systems (SUDS), house price increases and arising educational opportunities etc., have been recognised in numerous reports and industry journals, and their importance in helping to achieve wider goals in society is being understood like never before. At this time, however, it is also understood that street trees are under threat. A report by the London Assembly Environment Committee in 2007 'Chainsaw Massacre' highlighted the loss of street trees in the capital

(particularly in relation to subsidence related insurance claims) indicating that more trees were removed than replaced or newly planted. Many of our urban trees are taken for granted until their loss is exposed. It is vital that a legacy for our trees and woodlands is planned especially considering the role that large structural trees can play in increasing canopy cover and meeting climate adaptation goals.

It is becoming increasingly important to ascribe a monetary value in the context of ecosystems services to trees e.g. CAVAT and i-tree, for if they are perceived to have a value then they will be considered seriously in the context of policy making, budget allocation and infrastructure planning. Many local authority tree officers and certain developers now realise that it is advantageous to regard trees in terms of cost benefit ratios and that they can be an instrumental tool in planning for and incorporating trees within the urban environment.

Cost/benefit analysis studies can be undertaken to demonstrate value for money in the following areas:

Environmental

Trees:

- reduce the 'Urban Heat Island Effect' by absorbing radiation which would otherwise be stored and emitted by buildings and highways increasing local temperatures
- sequester carbon, aiding climate adaptation
- capture and absorb particulate and noise pollution adjacent to busy roads
- provide shade from the sun, and create cooler places for people to enjoy during periods of high temperature
- intercept rainwater, helping to prevent localised flooding
- are an essential component of biodiversity; supporting wildlife throughout all areas of the Borough

Economic

- The presence of trees can increase the value of properties
- A green environment makes for a better working environment; workers who have views of trees feel happier, aiding increased performance
- Trees help to create welcoming areas within our town centres, encouraging people to visit and stay for prolonged periods, using shops and restaurants
- Trees help to regulate local temperature extremes therefore reducing the costs of heating and cooling buildings
- Trees are good indicators of the strength of an urban ecosystem (Ecosystem Services)

Health

- Trees help to improve air quality as they remove pollutants, helping to minimise associated health risks to our residents and visitors
- Trees provide a positive effect upon our mental health and sense of wellbeing
- Trees provide inviting areas for exercise
- Trees provide shade and can reduce the risk of skin cancer
- Trees reduce the urban heat island effect, helping to cool local areas and therefore preventing heat associated health problems

Social

- Trees provide a sense of place and community
- Trees provide an educational resource e.g. the Forest Schools Programme
- Provide seasonal interest, flowers, fruit, autumn colour, dormancy
- Provide a cultural and historic link to many areas of the Borough

Policies

This strategy details the list of policies that will be implemented in order to deliver its strategic aims and objectives.

The policies have been set out in the following sections: Trees in the Street Scene; Trees in Parks and Green Spaces; Trees in Woodlands and Conservation Sites; Trees in Educational Sites; Tree Management; Trees in Private Ownership; and Trees and the Environment.

Trees in the Street Scene

1: Tree Removal

Trees will only be removed where there is a risk to public safety or damage to property or with the aim of good arboricultural practice.

Publicly owned trees are a valuable resource in the context of the Bromley's tree stock. Therefore the determination will be to resist the removal of trees wherever possible. However there are some circumstances where it is deemed necessary to remove trees: to address professional public safety concerns; to mitigate building subsidence; to abate an actionable nuisance; to reduce the risk of the spread of pests and disease; where the highway and/or footway condition determine retention unsustainable; or in accordance with good arboricultural practice.

The Council will seek to inform the public of any proposed tree removals by placing a notice on the tree at least 10 working days in advance of the felling date. In order to inform local residents of Council intentions to remove individual trees, a laminated notice will continue to be fixed to the tree at least 10 days before the tree is to be felled. There are two types of notice: a notice stating removal on the grounds of public safety; and a notice stating removal in order to abate an actionable nuisance e.g. building subsidence.

Where a number of trees are to be removed for any reason the appropriate ward Councillor, Resident Association, and Partnership Groups will be informed by email in addition to the fixing of felling notices as set out above.

2: Criteria for Tree Pruning

The Council will prune trees for the following reasons only: where there is a risk to public safety; to abate an actionable nuisance; to mitigate the risk of building subsidence; and for accordance with good arboricultural practice.

The Council has a proactive programme of inspection from which necessary remedial works are generated and carried out, supported by a 24 hour emergency service. In addition, requests are periodically made by residents for tree pruning which are managed by the Tree Team via the Customer Service Centre (CSC). In all of the above criteria the Council applies strict criteria for when pruning is deemed necessary.

To ensure an impartial and judicious service is provided to all of its residents the Council will only prune trees for the following reasons:

- For the purposes of public safety: to ensure statutory clearance over the highway, footway, cycle lanes and public rights of way.
- To abate an actionable nuisance: where trees come in to conflict with buildings.
- To mitigate the risk of building subsidence: where risk trees have been identified on shrinkable clay soil and been included in the Borough's Insurance Mitigation Pruning Programme.
- Where remedial works are advantageous to the tree or tree stock and are in accordance with good arboricultural practice.

3: Managing Expectations

To ensure clarity and manage customer expectations the Council will highlight some of the reasons frequently used to justify pruning/tree removal that are considered beyond its responsibility.

The Council periodically receives requests from residents to prune or remove trees. With the aim of ensuring an impartial, reasonable and transparent service is provided to all of Bromley's residents, the Council will not prune trees in request to allay or resolve the following issues:

- Branches overhanging properties: residents have the right to exercise their right under Common Law to prune back branches to their property boundary; all arisings must be disposed of at their own effort or expense; pruning must only be carried out following discussion with a Council arboriculturist and completed to the standard set out in BS3998:2010 Tree Work. Recommendations.
- Where a tree is thought be overly large.
- Interference with satellite, TV or other media reception: there is no legal right to television reception and the Council (or any tree owner) has no legal obligation to remove or prune trees to improve reception; when positioning a new satellite receiver, residents are recommended to carefully consider existing trees and their potential for growth to avoid problems in the future.
- Branches and/or limbs in physical contact with telephone wires: telephone wires are plastic coated and faults on the line are very rarely caused by contact with branches; residents will be encouraged to contact their service provider to address any faults or interference experienced with their telephone phone line.
- Excessive leaf fall: this is a seasonal problem generally localised to a short period of the year. Residents are expected to clear any undesirable leaf litter falling on their properties themselves or at their expense; leaf litter on publically owned footways and highways will be addressed by the Borough's Street Cleansing contractors.
- Fruit fall: this is a seasonal problem generally localised to a short period of the year. Residents are expected to clear any undesirable fruit falling on their properties themselves or at their expense; fallen fruit on publically owned footways and highways will be addressed by the Borough's Street Cleansing contractors as notified.
- Problems associated with pollen.
- Excreta caused by insects or birds: honeydew (aphid excreta) and bird droppings are not sticky sap are not recognised in law as a 'legal nuisance'; hazards on the footway can be addressed by contacting Street Cleansing to notify them of the problem; measures to address the problems associated with honeydew can be made by residents by regular car washing, covering or parking in an alternative location.
- Obstruction of view: there are no rights associated with maintaining trees in accordance with maintaining views in British law
- Lack of light: there is no 'Right to light' (or shade) in British law.

4: Tree Planting

The Council will seek to plant at least one tree for every tree it removes.

Following proactive or reactive inspections it is sometimes necessary to remove trees. In such circumstances the Council will ensure a replacement tree is planted if the location is continued to be deemed viable in accordance with good arboricultural practice.

When the decision to remove a tree is made, a request on the Borough's asset management data base will be made for a replacement tree of suitable species for the location. Subject to resources, the replacement tree will be planted within the following two planting seasons.

Subject to resources, the Council will encourage initiatives in support of additional planting on all of its sites as appropriate and will implement programmes of planting aimed at increasing Bromley's publically owned tree stock.

The Council will provide advice and information to schemes or groups seeking to increase tree cover within the Borough whether on public or privately owned sites.

The Council will continue to manage the Adopt a Tree and Memorial Trees initiatives funded by individuals and groups.

In support of the Councils replacement tree scheme (The Adopt a Tree scheme and Memorial Tree initiative will continue to be managed by Bromley on a cost neutral basis, delivering value for money to local residents seeking additional tree planting.

The Council will continue to ensure that appropriate regard is given to the relationship between species selection and location (Right Tree, Right Place).

The objective of all tree planting programmes is to ensure future tree planting in the Borough is appropriate, sustainable, considered and permits the long term survival of those trees planted so that they fulfil their growth potential and make the maximum contribution possible without causing many of the problems traditionally associated with planting trees in urban areas.

5: Excavations and Utility Companies

When undertaking excavation works near to street trees all Council operatives and private contractors will be required to adhere to the guidelines as set out in the revised National Joint Utility Guidelines: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG 4, 2007, unless otherwise formally agreed with the Councils Tree Team.

It is recognised that on-going maintenance of the highway, service routes and street furniture is essential to ensuring that the Borough's transport and infrastructure network continues to operate effectively. This brings considerable potential disturbance to the Borough's trees as work often requires excavation and construction within the root zone of trees. Therefore it is essential that when undertaking excavation works near to street trees all Council operatives and private contractors will be required to adhere to the guidelines as set out in the revised National Joint Utility Guidelines.

6: Cross over applications

The Council will consider tree removals associated with cross over applications only where the outcome is supported by good arboricultural practice. The applicant will be expected to fund the removal of the tree and pay compensation for its loss. The level of compensation will be calculated using the CAVAT (Capital Asset Valuation for Amenity Trees) valuation system.

The Council retains the right to reject any cross over application if the construction necessitates the removal of a healthy, established tree.

If the Council agrees that the tree can be removed, the applicant will be required to pay compensation for the loss of the tree together with the cost of tree removal and planting of a suitable replacement.

The Council will not approve the removal of trees in Conservation Areas or trees covered by a TPO to accommodate new vehicle crossovers unless an exceptional justification can be provided.

7: Managing Trees and Subsidence

The Council will continue to manage its tree stock to minimise the risk of tree-related subsidence, whilst maintaining a healthy and sustainable tree stock. Location and species for new tree planting will be selected to minimise the risk of future tree-related subsidence.

LBB will seek to continue to retain trees on shrinkable clay subsoil, where sustainable, in order to maintain the value of the amenity. The Council will continue to manage a robust programme of pruning in order to mitigate subsidence damage to buildings: regrowth on all risk trees will be removed on a 3 yearly cycle in order to manage water demand. Individually implicated trees may be pruned on a 2 yearly basis depending on the determined risk of their retention.

The Council will manage and process claims in accordance with the principles of the LTOA's (London Tree Officers Association) Risk Limitation Strategy and the Joint Mitigation Protocol by managing its tree stock with the aim of reducing the potential for building damage whilst maintaining a healthy and sustainable tree stock:

- Local authorities instigate a regime of cyclical pruning of Council tree stock 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.
- Local authorities provide dedicated resources for dealing with subsidence generated Conservation Area notifications and Tree Preservation Order applications.
- Local authorities review all existing unsettled claims providing dedicated resources to challenge those unwarranted claims based on poorly investigated and inaccurate evidence or where in the case of preserved trees the Town & Country Planning (Trees) Regulations 1999 can provide relief from the claim.

8: Phased Removal Programme

Where trees come in to conflict with the footway, highway or properties the Council will seek to remove individual specimens which cannot be maintained in a sustainable fashion.

The Council accepts that there have been instances of poor species selection in the past: For example; Norway maples with shallow root systems that were planted directly in to the footway. On reaching maturity, many of these have been identified as causing considerable damage to surfacing and property. Where on costs are deemed excessive tree felling will be considered on a case by case basis and included in a programme of Phased Removal.

If appropriate, a suitable replacement tree will be planted in the following planting season according to Policy 4: Tree Planting.

9: Damage to Council Trees: Prosecution and Compensation

The Council will prosecute anyone found to be damaging or pruning its trees without permission or disposing of tree waste illegally, and where appropriate apply the maximum penalty.

The Council will use the CAVAT system to value its trees and use this information to assist in the management of its tree stock. Any private individual or external organisation that undertakes actions to damage or remove Council owned or protected tree(s) will be pursued for compensation for the full amenity value of the tree as calculated by CAVAT.

Trees in Parks and Green Spaces

10: Encouraging Biodiversity in Parks and Green spaces

The Council will seek to maintain a diverse range of species and age structure and will promote planting of native species, of local provenance where possible, in particular where appropriate to the park, character and the relevant park management plan.

In order to maximise biodiversity the Council understands the importance of encouraging a varied age structure in its tree stock. This can be achieved through planting, thinning, retaining over-mature and veteran trees and selecting specimens for succession.

Over-mature trees and those with dead wood and cavities provide valuable wildlife habitats particularly for bats, birds and invertebrates. The borough's woodlands are also particularly important, containing a substantial number of veteran trees which support a large number of insects, many of which are rare. It is important that veteran and ancient trees are retained so long as they do not present an unreasonable risk to public safety.

Trees in Woodlands and Conservation Sites

11: Woodland Cover

The Council will protect and enhance the Borough's woodland. Total woodland cover within the borough will be maintained at the existing level or increased.

Bromley contains 2,181 hectares of woodland of which LB Bromley owns 553 hectares. These are largely mixed broadleaf with areas of coppice and some small areas of conifer plantation. Through continued professional management, stewardship programmes and grant funding the Council recognise its privileged position as a custodian of this vital resource and will seek to ensure its protection and seek to increase woodland quality, as well as woodland cover, when opportunities arise.

All planting in woodlands shall be of native species and, where possible, be of local provenance.

The Council recognises the importance of maximising biodiversity in all of its woodland sites. In order to pursue this aim any new planting will be of native species, consistent with management plans, and of local provenance where possible in order to minimise the risks associated with imported pests and diseases.

The Council will develop Woodland Management Plans for each of its woodlands and will encourage the development of Woodland Management Plans for privately owned woodlands and those owned by other public bodies.

Trees in Educational Sites

12: Tree Management in Local Authority Controlled Educational Sites

The Council will continue the survey of trees on Local Authority education land.

Where schools and other educational establishments continue to remain within the Local Authority structure, the Council will continue to manage trees on their land providing two-

yearly tree condition reports and arranging remedial works as required (works to be paid from LA controlled schools devolved budgets).

The Council will provide advice to educational establishments on the management of trees, planting of new trees and the use of trees as an educational resource.

LA controlled schools will be required to comply with this strategy in the management of their tree stock and will be required to obtain consent from the Council Tree Services section before pruning, removing or planting any tree.

The Council will no longer provide an arboricultural service to schools transferring to the Academy system. Academy schools will be expected to make their own arrangements going forward.

The number of trees and diversity of species and age structure will be maintained or increased on Local Authority owned education land. New planting will be promoted, particularly of native species.

Trees have become increasingly important as a learning resource for children. This is reflected in the growing number of schools that have signed up to the Forest Schools programme, using areas of their sites as outdoor class rooms. The Council will seek to encourage biodiversity by the same means set out in Policy 21: Biodiversity.

Tree Management

13: Tree Inspection Programme

The Council will adopt a new tree inspection programme as set out in the Tree Risk Management Strategy (Appendix 1).

The Council will continue to maintain a robust programme of tree inspections across all publically owned sites. A summary of inspection frequencies is as follows:

Street trees: full asset survey every 3 years

Park trees: full asset survey every 3 years (backed-up by Dead, Dying and Dangerous surveys determined by risk areas as set out in the Tree Risk Management Strategy (Appendix: Policy Framework).

Trees in Educational Sites: full asset survey every two years.

Trees in Woodlands and Conservation Sites: full asset survey every 5 years (backed-up by Dead, Dying and Dangerous surveys determined by risk areas as set out in the Tree Risk Management Strategy (Appendix 1: Policy Framework).

Trees in Public Rights of Way: full asset survey every 5 years.

14: Programme of Tree Maintenance

The Council will continue to issue a proactive programme of tree maintenance linked to the tree inspection programme.

Following inspection as set out in Policy 13 the Council will order all necessary remedial works for pruning and felling in accordance with good arboricultural practice (Policies 1 and 2).

All works issued to the contractor are expected to be completed within the timescales set out in the contract. Failures meet designated timescales for works completion may be subject to the rectification and default procedures as per contract specification.

15: Emergency Call out Service

The Council will continue to provide a 24 hour call out service in order to respond to emergency situations on Borough managed land and highways.

The Council has a duty under The Highways Act 1980 to ensure that all of the roads within the Borough are free from hazards at all times. In order fulfil this duty the Council will continue to ensure a 24 hour emergency call out service is maintained to clear fallen trees from the highway and public land. It is expected that all call outs are responded to within 1 hour.

In the prospect of an extreme weather event the Council will ensure that adequate resources are targeted to processing multiple emergencies and managing post storm clear up operations (see Tree Risk Management Strategy Appendix 1: Policy Framework).

Trees in Private Ownership

16: Encouraging Best Practice in the Management of Trees on Private Land

The Council will encourage best practice in the management of trees on private land.

Private tree owners have a Duty of Care (Occupiers Liability Act 1957 & 1984) to minimise the risk to people and property resulting from trees within their land. Through its website and Customer Service Centre the Council will seek to inform residents of their 'Duty of Care' and encourage the implementation of good arboricultural practice.

17: Dangerous Trees on Private Land

The Council may serve notice on the owner of a private tree if it is considered to present an unreasonable risk to the public. If remedial work is not satisfactorily undertaken, the Council can undertake the necessary work to mitigate the risk and recover the costs from the tree owner.

Occasionally there may be reasons why owners do not make dangerous trees safe, e.g. owners may not be traceable, or refuse, or are unable to pay. As a last resort, the local authority has powers under the Local Government (Miscellaneous Provisions) Act 1976 section 23 & 24 Dangerous Trees, to take the minimum action necessary to remove immediate danger on private land. However, these powers are discretionary; LBB will only guarantee action if a tree in private ownership is likely to impact on the highway or Council owned land property. All other scenarios will be assessed on a case by case basis (see LBB Tree Risk Management Strategy (appendix 1) appendix 4, pages 56 – 57 LBB Procedure for tree risk mitigation on privately owned trees under the Local Government (Miscellaneous Provisions) Act 1976).

When works have been carried out, the Council can recoup the costs of the works plus an administration fee. If the owner is untraceable or un-contactable a land charge will be entered against the property for future payment.

18: Protecting Privately Owned Trees

The Council will seek to ensure, through the use of current Tree Protection Order (TPO) and Conservation Area legislation, that trees of particular amenity value are protected.

In accordance with the Town and Country Planning legislation the council will seek to protect and preserve trees of high amenity value through the careful consideration of TPO and Conservation area applications.

Tree Preservation Orders:

Anyone wishing to remove or undertake pruning works under a TPO is required by law to make a formal application to the borough using application form (downloaded online or

requested from the Planning Department). Care should be taken in completing the form as applications that are incomplete or lacking sufficient information to determine the proposal will not be registered. Once the application has been registered it will be assessed and a decision notice will be issued within 8 weeks, detailing the outcome of the process.

Tree owners carrying out permitted development to their property adjacent to protected trees may also require permission before starting work, if the development is likely to lead to the severing of roots or branches to facilitate the build.

Conservation Areas:

Any person wishing to remove or undertake works to a tree within a Conservation Area is required to give 6 weeks notification to the Council using an application form (this can be downloaded online or requested from the Planning Department). The Council will register, assess and respond to all notifications with 6 weeks.

The Council will respond in one of three ways;

- Allow the proposed works
- Negotiate and agree alternative works
- Serve a TPO to prevent the proposed works

Anyone not receiving a response within the six week period is advised to contact the Planning Department to ensure they operate within the law.

The Council will carry out a survey of its TPOs and review and update them accordingly and will maintain an electronic record of the details; many of the borough's TPO records are old and in need of updating. Some of the trees protected by TPO have died, whilst other trees have grown and are now in need of protection. The orders are largely recorded in paper files and there is a desire to update this to an electronic system which can be accessed by the public on-line.

19: Trees and Development

Planning applications for new development will require compliance with development management policy which seeks to retain existing trees within a development site and promote the planting of new trees wherever possible.

To ensure that due consideration and protection is given to trees worthy of retention, the Council will require all development applications that affect trees, to provide the following information (to the standard detailed in BS 5837:2012 "Trees in relation to design, demolition and construction):

Pre-application stage;

- Tree survey
- Tree retention/removal plan
- Consideration for protected wildlife species

Planning Application stage;

- Tree survey
- Arboricultural impact assessment
- Tree retention/removal plan, detailing retained trees and their Root Protection Areas (RPAs)
- Any proposed level changes
- Hard and soft landscape design plans (replacement tree planting)

Reserved matters/planning conditions;

- Arboricultural method statement
- Details of all special engineering within RPAs
- Details of utility apparatus and installation
- Schedule of works to retained trees
- Arboricultural site monitoring schedule*
- Post construction remedial works

*The Council, aside from making its own spot checks on development sites, will impose planning conditions to ensure that all proposed tree protection measures are carried out and maintained throughout each stage of the development as recommended in BS5837: "Trees in relation to design, demolition and construction".

In accordance with policy 7.21 of the London Plan in respect to trees and woodlands, the Council agrees that "any loss as a result of development should be replaced following the principle of 'right place, right tree'. Wherever appropriate the planting of additional trees should be included in new developments, particularly large-canopied species" (GLA Jul 2011, p.235). To encourage replacement or new planting on development sites the Council will apply these principles:

- All development sites must look to incorporate tree planting as part of the planning application.
- Where trees have been removed to facilitate the development, suitable levels of replanting will be required.
- Where the provision of tree planting on a development site conflicts with other trees.
- Council policies or where suitable levels of replacement tree planting cannot be found on site, the Council will seek funding for alternative tree planting in the locality.

20: Unauthorised Works Prosecution

The Council will prosecute any tree owner who carries out or allows another to carry out on his/her behalf unauthorised works to a tree protected by a Tree Preservation Order or within a Conservation Area

The Council places high value on all trees covered by a Tree Preservation Order or within Conservation Areas and it will seek the prosecution of land owners who carry out (or allow another to carry out on his/her behalf) unauthorised works to a tree protected. Unauthorised works are defined as;

- The removal or pruning of any part of the tree (including roots*) protected by a TPO without the approval of the Planning authority or
- The removal or pruning of any part of the tree (including roots*) within a Conservation Area which the Council has not been given prior formal notification of

*Land owners should note that the root systems of protected trees are also subject of the protected status and they consider very carefully any intended re-landscaping, garden designing, wall replacement, decking construction that will involve any excavations or changes of levels within the root protection area of a protected tree.

Trees and the Environment

Biodiversity

21: Supporting the Aims of the Bromley Biodiversity Plan

The Council will seek to support the Bromley Biodiversity Plan aims and objectives through tree and woodland planting and management

The Council recognises the need to maintain and increase biodiversity across all sites in the Borough. Therefore it will seek to publicise the new Bromley Biodiversity Plan seeking engagement with as many stakeholders as possible in order to fulfil its aims and objectives and monitor and review its outcomes (best practice guidelines for sustainable woodland management can be found in appendix E of the Bromley Biodiversity Plan).

22: Supporting Partnerships

The Council will continue to provide arboricultural support and advice to partnership groups throughout the Borough.

Partnership Groups make a highly valued contribution to Bromley's environment. The Council will continue to support Tree Friends, Street Friends and Friends of Parks groups in leading woodland work days, new tree planting, training, and providing arboricultural advice.

23: Veteran and Ancient Trees

The Council will promote a programme of recording and protecting veteran and ancient trees in the Borough and instigating a programme of management and succession planting.

Many of the Council's veteran and ancient trees are already recorded on the Confirm system following survey, however LBB acknowledges that the specific management practices required for this highly valuable resource are best undertaken under singular focused initiative. Therefore the Council will launch a programme of recording, mapping and the production of management plans for all of Bromley's veteran and ancient trees, whether on public or private land. The resources available for this will be limited, however it is expected that a significant level of volunteer engagement will be sought in order to achieve its aims.

24: Pests and Diseases

The Council will ensure adequate resources are available to control and contain the outbreak of known new pests and diseases, and continue to ensure proportionate resources are dedicated to the control of existing pests and diseases.

Over the last few decades the UK has experienced increasing threats to plant biosecurity as increased global trade acts as a pathway for the arrival of new organisms, with impacts potentially exacerbated by climate change and new pathways of introduction into the EU. This has been highlighted by the increasing number of plant disease and pathogen outbreaks, most notably in relation to trees.

The Council will prioritise adequate resources in a timely fashion to deal with such threats, especially when these are related to the health of the tree stock and may also present serious public health issues. Bromley will continue to liaise closely with the Forestry Commission and London Tree Officers Association (LTOA) on issues of biosecurity.

25: Green Corridors

The Council will continue to support its Green Corridors Initiative through external grant funding and designated planting resources, building a network of strategic green infrastructure.

The Green Corridor concept involves creating continuous links of street trees which in effect 'join-up' areas of countryside with those parks and open spaces in more urban locations. As an Outer London Borough, Bromley's geography allows for the strategic implementation of green corridors from the countryside, through urban and industrial zones, and allows neighbouring boroughs the opportunity to link with our network of green infrastructure. Where appropriate the species selected will be native, large specimens in maturity which will provide avenues for wildlife to travel and make a significant contribution in combatting pollutants whilst enhancing the street scene aesthetic.

In 2014 Bromley created its first designated Green Corridor which runs from Court Road, Orpington, through to Cray Avenue and Sevenoaks Way, continuing through Midfield Way to St Pauls Wood Hill, linking the countryside in the south west of the borough to numerous parks and conservation sites as well as hundreds of residential gardens. The Cray Valley Commercial Corridor is identified as a Strategic Industrial Location (SIL) within the London Plan and is adjacent to 2 London Plan Regeneration Areas. The corridor has a local designation with a commitment to replace trees that reached the end of their useful life with

ecologically important native species. There is potential for neighbouring local authorities e.g. Bexley to link to and build on this corridor.

The Council will strategically identify further routes for designation seeking to expand the green infrastructural network through tree planting programmes.

Monitoring and Review

This Strategy will be subject to a process of monitoring and review, in order to monitor the success of its implementation. The Strategy and all individual Policies will be reviewed every five years in order to respond to changes in the borough, new and revised legislation, and emerging best practice.

In addition an annual report will be produced detailing the outcomes of Key Performance Indicators as detailed below. This will allow performance to be measured in specific areas of interest and identify necessary actions for improvement.

Key Performance Indicators (per annum data)

Indicator	Description	Outcome
<i>Number of new and replacement trees planted in annual programme</i>		
<i>Number of trees planted in community projects</i>		
<i>Mortality rate of newly planted trees (%)</i>		
<i>Number of trees removed per annum: streets, parks, schools, woodland and conservation sites.</i>		
<i>Number of trees inspected in 2 and 3 yearly cycles: streets, parks, schools.</i>		
<i>Number of trees pruned per annum</i>		
<i>Number of active Tree Friends Groups and details of activities</i>		
<i>Number of enquiries processed by Trees and Woodlands Team</i>		
<i>Number of Conservation Area applications processed</i>		
<i>Number of Tree Preservation Order applications received</i>		
<i>Quantity of new Tree Preservations Orders requested and confirmed</i>		
<i>Number of tree planning contraventions that have been investigated</i>		
<i>Total compensation paid to LBB in relation to trees removed/damaged in relation to development (including section 106 monies)</i>		

Appendices

Appendix 1.0: Policy Framework

This strategy has been created following an extensive review of national, regional and local policy. The review has enabled a greater understanding of the overarching policy framework, and relevant policy areas have been captured in this strategy. The key policy documents are discussed briefly below but for more information please refer to the original policy document.

National Policy

The National Planning Policy Framework (Department for Communities and Local Government, March 2011) sets out the Government's planning policies for England and how these are expected to be applied. It sets out the Government's requirements for the planning system within which local people and their Council can produce their own distinctive local and neighbourhood plans. The Framework must be taken into account in the preparation of local and neighbourhood plans, and is a material consideration in planning decisions.

Under the title 'Achieving sustainable development' the document suggests there are three dimensions to sustainable development and these give rise to the need for the planning system to perform a number of roles:

- an economic role
- a social role
- an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy
- Within the section 'Core planning principles' the Framework states 'a set of core land-use planning principles should underpin both plan-making and decision-taking.
- There are 12 principles, the most relevant being that planning should:
- Contribute to conserving and enhancing the natural environment and reducing pollution.
- In the section 'Meeting the challenge of climate change, flooding and coastal change' the Framework explains that planning should play a key role in:
 - "minimising vulnerability and providing resilience to the impacts of climate change"
 - Also that;
 - "Local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations."
- Under the title 'Conserving and enhancing the natural environment' it advocates that the planning system should contribute to and enhance the natural and local environment by:
 - protecting and enhancing valued landscapes, geological conservation interests and soils
 - recognising the wider benefits of ecosystem services
 - minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures
 - preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability
 - remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate
 - The same section also supports the view that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying a list of principles, the most relevant one to trees being:

“Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss”

More specific policies relating to trees are clearly laid out in the Government White Paper ‘The Natural Choice’ (DEFRA, 2011). This document “makes clear that government and society need to account better for the value of nature, particularly the services and resources it provides” (DEFRA, 2011). It replaces previous policy understanding which was largely taken from ‘A Strategy for England’s Trees, Woods and Forests’ (DEFRA 2007) and ‘Tree and Towns II’ (Department for Communities and Local Government, 2008).

The Natural Choice details a programme of action to repair the damage done to the environment in the past, and urges everyone to get involved. With reference to trees and woodlands, it has the ambition to “create more opportunities for planting productive and native woodlands; more trees in our towns, cities and villages.”

These actions are promoted in order to “enhance the wide range of benefits that woodlands provide, including renewable energy and timber, new wildlife habitats and green space for people to use and enjoy, helping us to mitigate and adapt to the future changing climate.” The proposals set out in ‘The Natural Choice’ are directly linked to the recent regional policy.

Regional Policy

The London Plan (GLA, 2011, p.235) states that “Trees and woodlands should be protected, maintained, and enhanced, following the guidance of the London Tree and Woodland Framework (or any successor strategy)”. This Framework explains that to maximize the benefits of trees the resource should be considered as an urban forest, so that trees are no longer managed in a fragmented and ad hoc manner but in a planned and co-ordinated way.

London Plan Policy 7.21 promotes the protection of existing trees, the planting of additional trees and the protection and creation of woodland. It also makes specific reference to these elements of the London Tree and Woodland Framework - Connecting Londoners with Trees and Woodlands (GLA, 2005):

- The guiding principle of ‘right place, right tree’, taking account of the context within which a tree is to be planted and addressing the issue of planting species appropriate to expected future climates.
- Assessment of an existing tree’s value should be derived using a combination of amenity assessment (BS5837) and a recognised tree valuation method (CAVAT or i-tree) that also takes into account social, economic and environmental factors.
- In terms of tree planting on development sites, cost-benefit analysis that recognises future tree value should be used to support the case for designing developments to accommodate trees that develop larger canopies.
- Boroughs should take this advice and the work of the Trees and Design Action group into account in producing LDF policies and determining planning applications.

The Local Plan also proposed the collaboration of the Forestry Commission and the Greater London Authority to produce supplementary guidance on Tree Strategies, which was completed in February 2013:

‘Green Infrastructure and Open Environments: Preparing Borough Tree and Woodland Strategies’ [GIOE] a supplementary planning guidance; (GLA and Forestry Commission, 2013) further dissects the objectives of the London Plan and suggests how to incorporate the policies into a Borough Tree Strategy. It provides extensive and very useful guidance that has been used throughout the development of this Tree Strategy.

The Mayor’s Biodiversity Strategy – Connecting with London’s Nature was published by the Greater London Authority in 2002. This document details the Mayor’s vision for protecting and

conserving London's natural open spaces. It has two main themes: protecting important wildlife habitat and priority species; and improving access to nature.

Local Policy

The Bromley Biodiversity Plan

The Bromley Biodiversity Plan is a guidance document for anyone who has an interest in, or an impact upon the borough's biodiversity. Any open space has value for wildlife, from open farmland to your own back garden. We can all contribute to protecting and enhancing biodiversity in Bromley, first by recognising the wealth of habitats and species we have in the borough and secondly by our actions upon them.

Some areas of the borough are already recognised for their wildlife value, and are designated as Sites of Special Scientific Interest and Local Nature Reserves. Other areas are recognised as Sites of Importance to Nature Conservation, green belt land, conservation areas, ancient monuments or common land.

To find out more about the habitats and species in the borough and what you can do to protect them, please read the Bromley Biodiversity Plan 2015 – 2020. The plan is written by the London Borough of Bromley and the Bromley Biodiversity Partnership. It succeeds the previous Bromley Biodiversity Action Plans and is a written strategy for the protection and enhancement of biodiversity in Bromley.

http://www.bromley.gov.uk/downloads/file/2185/bromley_biodiversity_plan_2015_-_2020

LBB Tree Risk Management Strategy

Few of us ever experience the tragic consequences of a fatality or a serious injury as a consequence of tree failure. However, while, happily, such tree-related events are rare, when they do occur they are newsworthy because of their very infrequency. The infrequency of tree failure events is in contrast to the ubiquity of trees, which define our landscape from the centre of our capital cities to the most remote of places.

Naturally and rightly, fatal and serious accidents are investigated and can result in litigation. In such cases, there is a need for the health and safety authorities and the courts to understand both the value of trees and the context of the management of trees and good practice against which any individual case can be compared. This also provides a benchmark for managers to work with. However, because of the importance of trees in our landscape and society, the infrequency of tree failure events and the wide range of environments in which trees occur, great care needs to be taken to avoid another level of burdensome regulation.

With this in mind a local government organization has a large range of statute law and civil case precedent on which to draw guidance for the formulation of a Tree Risk Management Strategy. This should set out responsibilities and actions in order to dispense its duty of care to people visiting land in its ownership, its employees and to those using highways within its control.

The London Borough of Bromley manages 36,000 street trees, 22,000 park trees, 10,000 school trees and 552 Hectares of woodland and conservation sites. LBB currently has a robust Tree Risk System in use, however, this needs refinement and has yet to be formalised in a comprehensive document which has been circulated to all relevant staff and adopted at executive level as a Tree Risk Management Policy.

Appendix 2.0: Urban Tree Management

2.1 Trees and the built environment

Trees are large, biological structures, growing in size incrementally above and below ground in often hostile conditions. Inevitably they will come in to conflict with other assets in the built environment. Above ground tree growth can reduce the effectiveness of street lighting, traffic lights, signs and surrounding buildings. Below ground, roots may disrupt underground services, distort pavements and roads, and cause direct and indirect damage to structures.

Tree roots

More than a third of a tree is usually hidden beneath the ground. Although they are not generally visible, roots are vitally important in a number of ways. Fine roots gather the water and nutrients the tree needs to survive and grow which are transported through coarse, woody roots to the stem. The coarse roots have the additional role of supporting the tree and resisting the overturning force of the wind on the crown. The vast majority of tree roots grow within 600mm of the ground surface and may spread outwards in any direction to a distance equal to the trees height or further depending on species and the local soil environment. Most trees have at least some shallow roots which are utilised for growth and stability. Despite being geotropic and negatively phototropic, roots will grow towards optimum conditions for water, nutrients and oxygen levels. Where roots are near the surface, distortions of a footpath can be expected irrespective of the soil characteristics below the hard surface. Distortions are caused by secondary thickening of roots growing below the pavement. Each growth ring increases root diameter pushing roots against the underside of the pavement resulting in sufficient pressure exertion to cause cracking, buckling and disruption of footways, light structures and services.

Any excavation of the soil within the root spread of the tree can cause significant damage to the roots and may compromise its health, causing decline in vigour, crown die-back, potentially resulting in death. Even if the tree is able to cope physiologically post root disturbance, removal of roots may cause instability resulting in an unacceptable risk of failure. Site development may therefore result in potentially substantial root severance of trees unless specialist techniques are employed in the construction of driveways, access roads, underground services and buildings.

Street Lighting

The combination of trees and street lighting can be problematic. In some cases the canopy of the tree grows to shroud the lamp column. This results in the lighting not working to its full potential thereby not providing light where it is required. The close proximity of the tree to the light may also mean that damage will occur when branches come into contact with the lamp. During the summer the canopy of a tree can cause the lamp column to remain on day and night, this also has an effect on the trees as the light will interfere with the trees processes for producing sugars.

The Council undertakes annual surveys of all street lighting during the summer months and provides reports of conflict to the Tree Team. Necessary remedial works may include the reduction in the crown of a tree or targeting of specific limbs in order to clear the foliage from around the lamp column. The Council will continue to assess the conflict of trees and street furniture both proactively and reactively to mitigate conflict where possible. This same strategy applies to street signs and traffic lights.

Vandalism and dog damage

Vandalism often leads to premature tree death, especially in incidents of damage to young and newly planted trees. Equally dog damage caused by irresponsible owners can have the same effect. The Council will continue to seek to ameliorate these problems through a combination of community engagement, education and enforcement.

The Council aims to deter and prosecute people who vandalise trees (either directly or through poor control of their dogs) taking specific action when photographic evidence is available.

2.2 Protecting Trees from the Impact of Development

Important trees can be at risk from private development and to prevent inappropriate pruning or damage to important trees the Council maintains a Tree Preservation Order (TPO) register. Anyone proposing to carry out works to a tree or trees subject to a TPO must seek permission from the local planning authority. This involves completing an application form identifying the tree(s), detailing the works proposed and explaining the reasons for the works. The Council's Planning Officer will usually inspect the tree(s) prior to making a decision and may recommend alternative works or refuse consent. If authorisation is given to fell a protected tree, a new tree will usually be required to be planted as a replacement and will in turn remain protected.

If a tree protected by a TPO is felled, pruned or wilfully damaged without consent from the Council, the person who carried out the works is liable to be fined up to £20,000 through the Magistrates Court or, if taken to the Crown Court, fines may exceed £20,000. There are exceptional circumstances, such as when a tree is dead or dangerous, when permission is not required but it is advisable to seek advice from the Council and give five days' notice before carrying out any works (except in an emergency).

2.3 Trees and subsidence

Drought-related subsidence is generally a problem only in areas which are situated on shrinkable clays sub-soils. Clay displays volumetric changes under different levels of moisture content. It shrinks when moisture is removed and swells when moisture is replaced. When the sub-soil shrinks building foundations can experience a drop in level of varying degrees often resulting in cracking to exterior and interior structural damage. Clay soil types are widespread throughout the northern, most highly populated, areas of the Borough. Although there are a range of influences associated with the desiccation of clay soils, privately and publically owned trees are often implicated as the cause of the problem. Insurance claims in relation to tree influenced subsidence became more prominent after the severe drought of 1976 when structural damage occurred to many buildings and when the number of claims increased dramatically. This increase has continued through the 1990s up to the present time. Generally, LBB receives an increased number of claims for in the months following a dry spring or summer.

Factors influencing structural failure

When dealing with a property displaying movement there are usually a variety of factors involved that are causing the structural failure. All too often a nearby tree is blamed as the easy option for remedial action.

Some other reasons for structural failure are:

- Inadequate foundation design
- Major works to adjacent properties
- General structure failure
- Previous internal alterations (sometimes decades ago)
- Nearby excavations
- Vibration from rail or road
- Climatic changes
- Different foundations between buildings and extensions
- Land slip
- Change in building use

- Use of mortar without lime
- Change in surface materials in close proximity to trees and buildings e.g. when soil is capped with concrete the water permeability of the area is reduced considerably
- Seepage from broken or poorly maintained water pipes and drains

Broken drains often cause significant problems for arboriculturists as very often the drain or pipe has been broken for a long time, sometimes years. Any nearby plant roots will migrate towards the source of moisture, so that when a problem is discovered tree roots are invariably present. There is no evidence to suggest that tree roots can actively penetrate an intact pipe or drain. In these situations, we expect the owner of the drain to get the drain repaired at their own expense.

Tree influenced subsidence

Trees can damage buildings when their roots extract moisture from the clay sub-soil on which the building's foundations are laid. When this clay shrinks, movement occurs in the building which then produces visible signs of cracking through the brickwork and internal plaster. Different species of tree remove water at different rates (by transpiration), some are of high water demand, e.g. Poplar, Willow, Oak, and some are low e.g. Birch, *Sorbus*, *Malus*. This is true of different aged trees: a large mature tree which is physiologically stable or in decline may actually be using less water than a smaller tree which is growing vigorously and transpiring at a greater rate.

The relationship between trees and buildings is a very complex one. While considerable work has been done on their interaction it remains difficult to predict how much moisture a particular tree is removing from the ground in isolation. Any such extrapolation should take into account all the local factors and ground conditions. This means that each case must be viewed and assessed individually on its own merits. Research into this matter is on-going and all LBB Officers at work in the process are expected to keep up to speed with new developments.

Record keeping

All records of historical and current claims and associated correspondence are stored electronically. LBB arboricultural reports written in response to insurance claims in order to inform the claims process are also stored electronically. In addition records of all Council owned implicated trees in subsidence claims, together with all associated remedial works, are kept on the SBS Confirm asset management data base.

Assessment

To aid in the assessment of existing trees' influence on buildings and how new building construction should allow for the presence of trees there are a number of reference documents. These include:

- National House Building Council's 1984 chapter 4.2 "Building Near Trees"
- British Research Establishment digest 'The Influence of Trees on House Foundations in Clay Soils'
- Institute of Structural Engineer's 'Subsidence of Low Rise Buildings 2nd Edition 2004'
- British Standard 5837 1991 'Trees in Relation to Construction, 2005'.
- The London Tree Officers (LTOA) Risk Limitation Strategy for Tree Root Claims; 3rd edition 2007.

These documents provide valuable information concerning some of the more quantifiable aspects of the problems of subsidence and construction near trees. The first two deal

primarily with the effects of trees on building foundations in clay soils and the recommended precautions deemed necessary to reduce existing problems. The BS 5837 document deals solely with the precautions necessary to protect and preserve trees on development sites where there is a certain amount of conflict between the need of trees on the site and that of the design and construction of the new building(s).

Where a tree is suspected of contributing to structural movement in a building the recommended prudent course of action is to prune the tree so as to lower its water uptake. Within the arboricultural industry, there are differing opinions with regards to pruning methods and their effect on water uptake. The Hortlink Project undertaken by the BRE indicates that crown thinning has little effect on water uptake. Crown reduction is a more effective method of controlling water uptake, but only if this is followed by re-reduction on a regular basis.

In undertaking any tree works, care should be taken that pruning, while initially lowering water uptake does not result in a subsequent increase in leaf surface area as can happen in certain species (e.g. Lime, Sycamore, Plane) following crown reduction. It is accepted that a significant number of trees in urban situations require regular maintenance. However, the aim of this routine pruning must be to mitigate the influence of the tree for the longest period possible while still retaining its amenity value.

LBB requires a detailed standard of engineering and arboricultural supporting evidence for each claim that is made. Reports pertaining to the following are mandatory:

- Detailed description of alleged damage
- Soil type and profile
- Soil moisture content and capacity results
- Positive DNA root testing results
- A drainage report
- Seasonal testing (crack width measurements) to made available after a sufficient period of investigation
- An arboricultural survey to include all potentially influential vegetation (privately and publically owned)
- A heave assessment

Mitigation

Decisions relating to arboricultural mitigation to trees are taken on a case by case basis owing to the broad range of factors at play as previously described. However, if an implicated tree is shown on the balance of probabilities to have had an influence on structural damage it will be subject to crown reduction operation to remove approximately 40% of its leaf area. This operation has only been found to prove effective if the subsequent regrowth is removed on a cyclical basis, thus managing the trees water demand. Therefore the implicated tree will be added to the Councils 2 year Insurance Mitigation pruning Cycle (in extraordinary cases, a tree may be pruned annually).

In addition, trees situated on the same street as the implicated tree are placed on a 3 year pruning cycle in order to reduce the risk of subsidence damage occurring in neighbouring properties. Similar judgements will also be made in cases where trees in parks and open spaces, situated on shrinkable clay soils, are considered to be within the zone of influence for potential subsidence damage to properties.

It must be recognised that cyclical pruning mitigation does not always provide a solution to a subsidence problem and further damage can occur despite the application of pro-active arboricultural management. In these cases, it may be necessary to remove the tree if further evidence of damage is presented. In these cases LBB will seek to ensure the assurance of a Heave Assessment in order to settle its liabilities.

Process

Due to the nature of subsidence claims and the time they can take to process, residents who are suffering from alleged subsidence often become frustrated. LBB seeks to ensure that all claims are dealt with effectively, efficiently and in line with best industry practice.

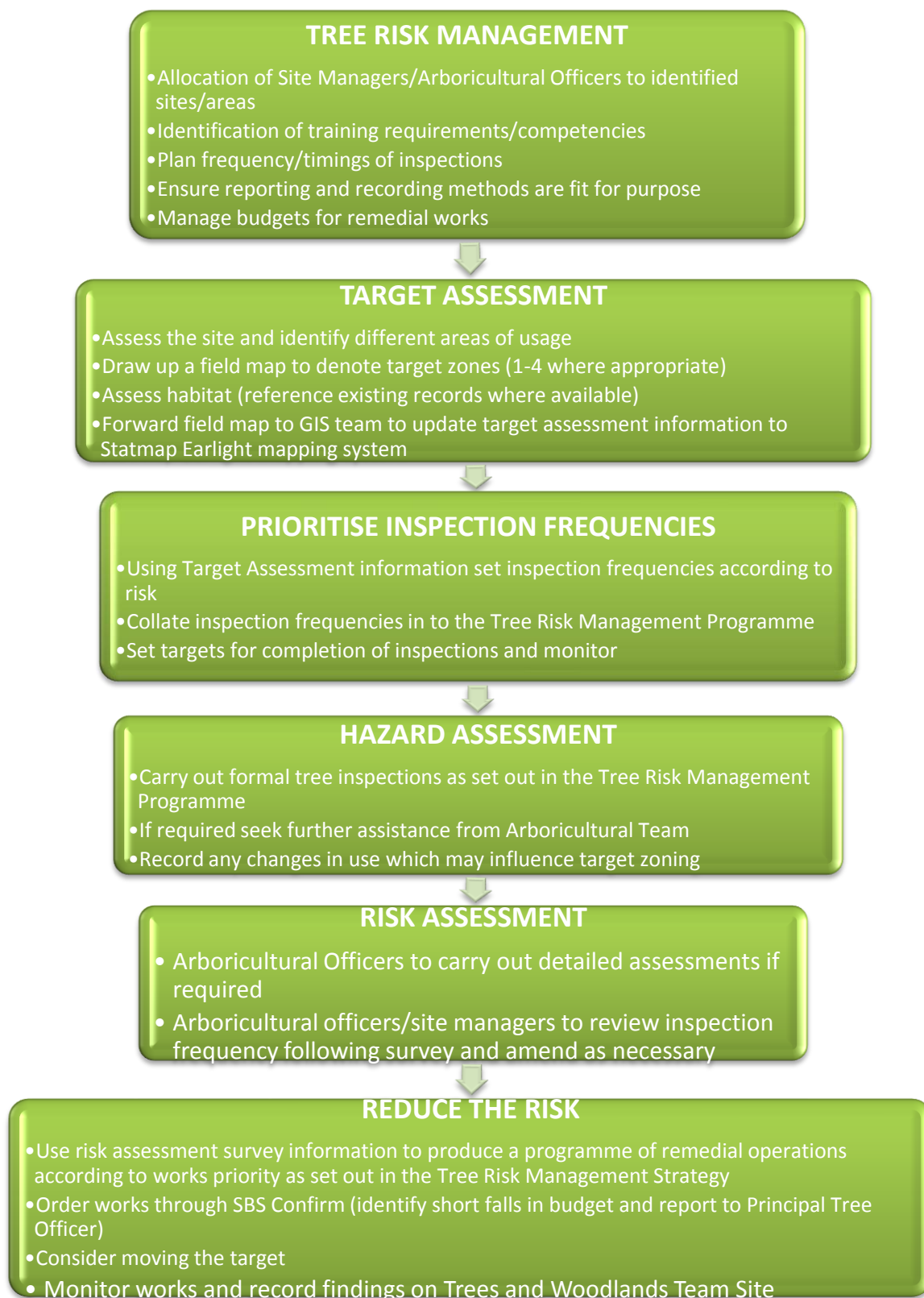
Species selection

Various studies, conducted by Cutler and Richardson (1989), Biddle (1998), Driscoll (1983), McCombie(1993) etc., have established avoiding tree root problems by ensuring a safe distance between tree and building, large enough to avoid any influence of the tree on the soil beneath the structure. The development of Rank Order amongst tree species most likely to be associated with indirect damage allows the arboriculturist to minimise or prevent this likelihood with species selection.

Although the results of the various studies show some differences in this order, many more consistencies are present throughout the research altogether e.g. Oak, Poplar, Plane, Willow and Ash are generally found in the top ten species likely to cause damage, whereas Birch and *Sorbus spp.* are generally found in the lower orders.

If a building is known to be situated on shrinkable clay it is important to consider planting new trees from species that have been demonstrated as having low water demand.

2.4 LBB Tree Risk Management Process



Excerpt from: *Common sense risk management of trees - Guidance on trees and public safety in the UK for owners, managers and advisers*

Scenario 5: Local authority – city council

General description

Scenario 5 could relate to any metropolitan authority, London borough, county or district council which contains a large conurbation. In this instance, we will use a metropolitan authority. The council is responsible for managing the following land. It covers the city centre, the outlying suburbs and some rural land in the green belt. The overall population is around 200,000. The city council employs one arboricultural manager and three tree officers. They proactively manage all street and park trees and respond to more than 2,000 public queries a year. A separate council officer in the planning department deals with tree preservation orders and development issues.

Ownership / control of management

Responsibility for the local authority has responsibility for all municipal property and services within the city boundary, including trees.

This includes:

- Highways: 25,000 street trees
- Parks: 120 different open spaces covering 345 hectares and one municipal golf course
- Housing: 6,000 trees on council estates and individual gardens
- Schools: 102 schools
- One cemetery and seven closed churchyards. The council contracts out tree work to approved companies and the manager and his team manage a budget of more than £400,000 for all tree management and maintenance requirements, including planting. The city is built on a shrinkable clay soil and tree officers spend much of their time dealing with subsidence issues.

Arboricultural competence

The manager and his team manage the city council's tree stock in relation to amenity, public, political and environmental interest, building-damage risk and public safety. They are all qualified in arboriculture and have different levels of experience. Details of all the public trees are held on a specialised database, as the authority's insurance service requires evidence of management.

Holding

Land area 7,250 hectares

Number of trees approximately 300,000

Access

The city is accessible to all, including visitors. Many of the parks are Victorian in design and many City trees date from that time. In the suburbs, there is an ageing tree stock of mostly plums and Hawthorn, many with recognised defects.

How this Guidance could be applied

Benefits of trees

The city is proud of its parks and the public interest in street trees is well documented. The council published a tree strategy outlining its approach to its different responsibilities. One aim is to increase street tree cover by two per cent a year for 10 years. Funding is in place to achieve this target, though this is under review. Because its tree strategy aims proactively to manage and maintain a healthy, sustainable tree population for public benefit, the council considers that its tree risk management policy is reasonable and cost-effective and is compatible with all its other tree-related policy objectives.

Natural living organisms

Under the arboricultural manager's influence, staff throughout the city council's departments have become increasingly aware of the role the tree stock plays in their overall environmental policy. This has led to the increased retention of dead wood, both in living and dead trees and managing tree safety issues in more innovative and responsible ways.

Reasonable, balanced tree safety management

Management due to the risk of subsidence in the area, street trees are inspected and managed on a three-year cycle. This obviously includes highlighting any trees found in a poor condition. Schools and parks are inspected every two years and housing trees every four. The areas described above are managed proactively throughout the year. The tree officers record all tree inspections and any emergency work carried out. If they remove a street tree, they assess the location for replanting to keep in line with the council's stated strategic increase in its tree stock. Colleagues in the highways and housing departments, as well as school caretakers, assist by reporting dead trees or trees with fungi growing on them.

Competence

The tree officers carry out the main survey work. They look after all areas of public land in the city, with each officer responsible for a specific area.

Records

The tree officers keep records using the software system designed for the purpose.

Reasonableness

The council is committed to following its published tree strategy, which the council cabinet accepted as policy. Tree safety is only one element of managing trees. The manager and his team are aware of the importance of having a proactive system. In recent years, a change in the way they manage trees in less formal parkland has seen an increase in monoliths and standing dead timber. This has led to an increase in biodiversity and saved money. The tree officers' knowledge of the district and the tree stock has helped save countless trees under threat from subsidence claims and residents who have concerns. The tree strategy explains unambiguously the council's intentions with respect to managing trees in the city. While these systems are in place, there are still over 100 incidents of tree failure a year in the city, though these are usually the trees in the suburbs, mostly small ornamental trees which were all planted at the same time and are coming to the end of their lives.

Appendix 3.0: Woodlands

Trees, woodlands and forests contribute significantly to the quality of life in both rural and urban areas. As well as enhancing the local environment and biodiversity, supporting economic growth through regeneration, helping to mitigate the impact of climate change, and assisting in reducing air pollution, trees and woodlands also provide important social roles with health and educational benefits.

Woodlands and forests have an important role on the agenda for communities, for development, culture and identity, education, local economy, health, recreation, for a sense of place, in summary - for the quality of life. Leisure visits to woodlands are made for a variety of reasons, from quiet contemplation to noisy, adventurous activities. Moderate but sustained physical exercise can provide many health and wellbeing benefits, as well as psychological wellbeing. Also, for many people, there are spiritual benefits that can be gained by walking and taking activity in a woodland setting. At a local level the Green Chain Walk and Bromley Circular Walks contribute to a valuable network of publically accessible woodland for people to experience.

Health and wellbeing

The Natural Environment White Paper (2010) recognised the value and potential for green spaces to support and contribute to everyone's health and well-being. This is being reflected in the Public Health Outcomes Framework, which underpins the public health duty of local authorities.

Inactivity is often a significant factor in many major illnesses: obesity, heart disease, kidney disease, some types of cancer and Type II diabetes. Active involvement of people in outdoor activities in forests and green areas therefore has direct significance for health. Forests and green areas provide a haven to escape to from stress. Contact with nature can extend a positive influence on the physical and mental health of human beings in increasingly urbanised societies. Hospitalised patients may recover faster if they can see trees (as opposed to buildings) from their window, while periods spent out of doors can have therapeutic value for patients and residents of hospitals and old people's homes. Our senses relax and are infused with fresh energy when we view and experience natural landscapes which include trees and other vegetation. The study by Hartig et al.(1996) of environmental influences on psychological restoration, through two laboratory experiments, also underlines the importance of restorative environments, such as woodlands, as an antidote to stress.

A welcome innovation has been the 'Green Gym' idea promoted by the British Trust for Conservation Volunteers, providing aerobic exercise in the course of practical conservation work. Similarly, 'Walking the Way to Health' is a Countryside Agency/British Heart Foundation scheme to promote health and fitness through countryside access. However, well-being is not just about physical fitness; it has a spiritual, psychological, cultural side as well. The concept of well-being goes much further, including ideas like happiness, optimism, self-expression, self-esteem, quality of life, realising one's potential, personal satisfaction with life and fitness to enjoy the freedom of outdoor exploration, for example. O'Brien's (2003) study of the values and meanings people associate with woodlands and trees in England emphasises people's subjective feelings of well-being when in woodlands and parks.

Woodlands can also have restorative effects e.g. looking at, or travelling through, treed landscapes can reduce states of stress and anxiety. Regular moderate exercise in well-designed, accessible woods can lead to a reduction in heart disease and other physical illnesses. Strenuous exercise, such as mountain biking and orienteering, can have greater beneficial health effects.

By increasing the level of activity, avoided health care costs in the East of England could lie in the range £6 - 14 million/yr, and if the non-health care costs are included the total avoided costs are in the range £12 - £27 (mid-point £19.5million/yr). This is a conservative estimate as it only takes into account one disease (CVD) and does not account for the potential of physical activity in woodlands to cause reduction in costs associated with a wide range of other illnesses such as mental illnesses, which costs the economy an estimated £26.1 billion

a year. There are number of organisations that either focus on, or include projects using walking therapy to promote good mental health.

Karen Henwood (2001) also identified major psychological benefits of natural space in giving a sense of place, because these spaces bear the marks of human use, and act as foci for communal activity. The relationship between a healthy (ecologically sustainable) environment and human health is also part of human understanding of a desirable lifestyle; such a lifestyle is particularly valued, for instance in Scandinavian countries, where quality of life is characteristically given an importance apart from material wealth.

Leisure and recreation

Given the benefits of woodland for health and wellbeing, the issue of woodland access becomes very important. Local communities are at the heart of determining what is needed in a local area and there is an appetite for an increase recreational opportunities and the green space to achieve them. These may also be linked to energy production, economic development and biodiversity targets. The Countryside and Rights of Way (CROW) Act 2000, as well as providing the “right to roam” on heath, down and registered common land, requires local highway authorities develop Rights of Way Improvement plans and sets the scene for strategic access.

There are many sports activities available for people to participate in within woodlands and forests e.g. cross-country running, long-distance routes for walkers, bikers and horse riders, and trekking, orienteering on horseback and carriage driving in the equestrian market. Woodlands also provide opportunities for adventurous activities such as climbing trees, building dens, mountain biking, Go Ape etc. and have the a capacity to absorb activity without seeming crowded.

Tourism uses of woodlands are increasingly important in UK forestry and land-use policy because of the benefits that wooded landscapes provide to the leisure sector, including the generation of revenue for forestry owners, tourism businesses, organisations and enterprises. The year-round and all-weather appeal of woodlands to visitors, particularly during the spring and autumn, is thought to be valuable in maintaining a flow of customers to businesses throughout the year. Research indicates further potential for the forestry sector to benefit from leisure activities and for it to generate economic and other advantages for the wider tourism sector.

Education and learning

The Natural Environment White Paper also recognises green space’s contribution to children’s learning. The Public Forest Estate provides high quality educational opportunities, for a wide variety of groups as a learning location. This has been recognised by both the Forest Education Network and the Forest Schools Association, who support the continued professional development of those involved in forest education, as well as the work done by organisations like the Wildlife Trusts across the country to support woodland learning. Recent research in Norway suggests that spending part of school time in small woodlands has a positive influence on children’s (5 to 7 years) motor development skills. It was found that natural landscapes had qualities to meet children’s needs for a stimulating and varied play environment, with a positive relationship between landscape components and play activities. Children are thus enabled to develop more fully in a range of ways, both as individuals and as part of society.

The Forest School concept has developed from this work. In essence, each Forest School provides a permanent, natural, but safe setting in which children have the freedom to roam and to experience the natural world through practical activities. Children visit the woodland regularly throughout the year and in all weathers. Although Forest School sessions are mainly run for pre-school age children, both older disaffected children and those with learning difficulties can thrive in the positive atmosphere. Forest School allows participants to learn and explore in a constructive way and encourages them to be active. Forest Schools gives confidence in the outdoors and the tools to develop healthy lifestyles while providing a unique and unforgettable learning experience

The Forest Education Initiative (FEI) is a partnership between the Forestry Commission, Woodland Trust, Timber Trades Federation, Forest Industries Development Council, BTCV, Local Authorities, Field Studies Council, Tree Council and Groundwork. It aims to increase the understanding and appreciation, particularly among young people, of the environmental, social, and economic potential of trees, woodlands and forests and of the link between the tree and everyday wood products. It acts as a facilitator and works with teachers and others to produce resources that help to deliver the requirements of the National Curriculum for schools. There are now many more opportunities to look at education and learning for young people outside the curriculum but still through the formal education process, for example through after school activities.

Through well-designed programmes, it is possible to increase public awareness of their environment, heritage and history within woodlands. Relationships to and with nature can be changed and awareness of global environmental issues with local implications increased. Woodlands can provide settings for adult learning, particularly those who don't learn in formal educational environments. Woodland management can uniquely demonstrate global and local sustainability issues, use of natural resources and illustrate such topics as the carbon and water cycles e.g. guided walks, interpretative material in woodlands, workshops, training courses, working holidays, and woodland craft holidays.

Well-being benefit theme (expanded typology)	Connection to cultural goods category	Key points
Fun and enjoyment	Leisure, recreation and tourism goods	Woodlands provide a space for a variety of activities Woodlands have a capacity to absorb activity without seeming crowded Woodlands provide opportunities for adventurous activities such as climbing trees, building dens, mountain biking, Go Ape etc. Woodlands are free
Physical action and movement	Health goods	Being in woodlands enhances the enjoyment of exercise – this is partly through the experience of being in nature, partly through the added value of exercise as a social experience. Woodland can provide a range of opportunities to be active – from walking, cycling trails to Go Ape trails and mountain bike routes
Mental restoration	Health goods	Woodlands are places for restoration – relaxing, being calm Woodlands are places for contemplation
Education and learning	Educational goods	Woodland play areas are beneficial for children's physical development. Woodlands provide opportunities to use natural materials to construct, make and create objects or structures Woodlands provide opportunities for a variety of education and learning activities from Forest School to apprenticeships Restorative effects also support the

Well-being benefit theme (expanded typology)	Connection to cultural goods category	Key points
		educational benefits of woodlands There is a link between childhood play in woodland and the extent of usage in later life.
Symbolic/cultural	Heritage goods	Trees are valued by the public as markers of time and place Woodlands are richly symbolic environments Trees are symbols of national and local identity
Landscape	Heritage goods	TWF are often an important component of the landscape both within the countryside and within peri-urban and urban built environments.
Social connectedness	No clear category link to NEA cultural goods typology – can bring health benefits.	Woodlands are good settings for social occasions Participating in organised activity can facilitate meeting new people, and feeling part of a group.
Nature connectedness	Religious and spiritual goods	The woodland environment can afford a sense of connection to natural cycles and processes Activities such as conservation volunteering can lead to maintenance or restoration of woodland habitats Gathering non-timber forest products has a range of benefits
Sensory stimulation	Health goods	Woodlands provide a rich sensory three dimensional experience including views, sounds, smells, touch Sensory experiences are often an important component of a woodland visit or view The sensory experience can be therapeutic
Escape/freedom	No clear category link to NEA typology	Woodlands provide a contrast and escape from more general everyday experiences Woodland can provide an escape from the built environment in densely populated urban areas.
Sense of ownership	No clear category link to NEA typology	Getting involved in the management of a woodland can be a positive experience of a sense of ownership A sense of ownership is part of the motivation for private woodland

Well-being benefit theme (expanded typology)	Connection to cultural goods category	Key points
		owners.
Meaning, identity and personal development	No clear category	Engaging with TWF (Trees, Woodlands and Forests) and undertaking activities in TWF can provide people with a sense of meaning and identity e.g. Offenders getting involved in conservation activities, people's feelings of belonging to nearby woods such as Elmstead Woods, Lilly's Wood.

Summary of evidence for well-being themes (after O'Brien and Morris, 2012 – on-going development of typology)

Heritage

Trees, woodlands and forests are often an important component of the landscape both within the countryside and within urban built environments. They are valued by the public as markers of time and place as symbols of national and local identity

There are many types of historic features in woodland which form a valued part of our cultural heritage and provide a rich resource for study and research. These include various forms of archaeological evidence, bio-cultural features such as veteran trees and wider historic landscapes. Maintaining and enhancing the historic environment found within woodland through informed management can engage interest groups and the local community.

In addition cultural, heritage and arts activities based on local and regional woodland culture, e.g. ancient and interesting trees, archaeology, activities such as coppicing, charcoal making, willow weaving and dying of textiles, forest theatre, story walks and folk-music festivals all bring people in to woodlands and forests.

Community involvement and connectedness

Getting involved in the management of woodland can be a positive experience of a sense of ownership. Engaging with woodlands and forests, and undertaking activities in them can provide people with a sense of meaning and identity. Participating in organised activity can facilitate meeting new people, and feeling part of a group. Local involvement is not just a benefit in itself, particularly where woodlands are to be created or managed primarily for the public benefits they provide. The input and engagement of local people can greatly enhance those benefits, as well as engender a sense of ownership and responsibility. Greatest benefits can accrue where there is a sense of ownership of the resource being managed. This can be achieved by delegating responsibility, particularly of publicly owned woodland, to a local community, or by direct ownership of land. A sense of ownership is part of the motivation for private woodland owners.

Settings such as woodlands allow for different types of social interactions through activities like recreation and picnicking. More (2002) argues that these are activities that strengthen social bonding and should be encouraged, not discouraged, in the development of future green space and forestry policy. The participation of communities in improving their own health and well-being is advocated by the New Economics Foundation in its report assessing public involvement and health projects across the UK (Burns et al., 2002). One example from that report is 'The Healthy Village' project in Brockenhurst, Hampshire in which the local general practitioner started an exercise and activity prescription scheme. The village hall was turned into a health centre for the community and local businesses and colleges became involved.

Often the social element of taking a walk with others is what keeps people involved on a long-term basis (Countryside Agency, 2000). The benefits of conservation work, for example tree

planting, may go beyond the act itself, and on to generating people's interest in other community activities and providing them with an opportunity to get to know others in their locality. *Rhode and Kendle* (1994: 151) suggested that 'nature areas therefore appear to be important not only objectively because of the beneficial social processes which they can evoke but because they are also seen to be so subjectively by the people who use them as social settings'

A sustainable woodland culture needs to be built from the ground up and must be based on the needs, interests and enthusiasm of local people. The work of organisations like the Tree Council, Community Forests, Woodland Initiatives Network, Small Woods Association and the Woodland Trust in supporting and promoting community action on trees and woodlands has been key in the development of this culture. Equally the work done by the many groups around the country who play an important role in supporting the Public Forest Estate, as well as the growing potential for social enterprise to support community involvement in local woodland management.

Community Woodland Groups in England can have a variety of titles, although they are usually grouped under the generic title of Community Woodland Groups, they can be called e.g. 'Friends of...' 'Conservation Group', 'Environment Group', 'Volunteer Group', the amount of activity they are involved in can vary from a couple of volunteers keeping a watchful eye on some street trees to a more proactive group of volunteers managing a local woodland for community benefit. The common denominators are volunteering with the objective of protecting and caring for a piece of land within the community. Community Woodland groups in England are run by volunteers from the local community and for the benefit of local people. The benefits can include recreation, health and well-being, community engagement and in a few cases local wood products. Ownership of the woodland they manage is also varied and includes privately owned, local authority and Parish Council owned and in some cases ownership is with the community woodland group themselves

Appendix 4.0: Biodiversity

A biodiversity action plan (BAP) is an internationally recognized program addressing threatened species and habitats and is designed to protect and restore biological systems. The original impetus for these plans derives from the 1992 Convention on Biological Diversity (CBD).

The principal elements of a BAP typically include: (a) preparing inventories of biological information for selected species or habitats; (b) assessing the conservation status of species within specified ecosystems; (c) creation of targets for conservation and restoration; and (d) establishing budgets, timelines and institutional partnerships for implementing the BAP

International

In July 2012 Defra and the devolved administrations jointly published the new UK Post-2010 Biodiversity Framework. The UK Post-2010 Biodiversity Framework covers the period 2011 – 2020. It forms the UK Government's response to the new strategic plan of the United Nations Convention on Biological Diversity (CBD), published in 2010 at the CBD meeting in Nagoya, Japan. This includes 5 internationally agreed strategic goals and supporting targets to be achieved by 2020. The 5 strategic goals agreed were:

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building.

National

The UK Post-2010 Biodiversity Framework constitutes the UK's response to these new 'Aichi' strategic goals and associated targets. The Framework recognises that most work which was previously carried out under the UK Biodiversity Action Plan (UK BAP) is now focussed on the 4 individual countries of the United Kingdom and Northern Ireland, and delivered through the countries' own strategies.

Following the publication of the new Framework the UK BAP partnership no longer operates but many of the tools and resources originally developed under the UK BAP still remain of use, for example, background information on UK BAP priority habitats and species which still form the basis of much biodiversity work at country level.

Greater London

The Mayor's Biodiversity Strategy 'Connecting with London's Nature' (July 2002) sets out policies, proposals and the Mayor's vision for London's wildlife habitats and rare species. The strategy is particularly significant for the region as it has political and legislative backing as a result of the Greater London Authority Act 1999. It goes towards "establishing a London wide framework for maintaining London's diversity of wildlife, as part of an integrated set of strategies to achieve sustainable economic growth and raise the quality of life for London's more than seven million residents."

Habitat Action Plans

The London Biodiversity Action Plan identifies priority habitats that are of particular importance for biodiversity in London. The following have been subject to Action Plans, although a number are now due for review:
acid grassland, chalk grassland, heathland, parks and urban green spaces, private gardens, rivers and streams, standing water, Reed beds, tidal Thames, wasteland, woodland.

In addition to GLA HAPS there are also Species Action Plans which also sit within the national as well as regional BAP framework.

The Bromley Biodiversity Plan

http://www.bromley.gov.uk/downloads/file/2185/bromley_biodiversity_plan_2015_-_2020

The Bromley Biodiversity Plan or BBP is, at its simplest, a plan of action for Bromley's wildlife. The heart of the BBP is formed from the Habitat Action Plans and Species Action Plans.

Aims:

- Auditing biodiversity and its importance to local people.
- Implementing and influencing, where possible, the National, London and Kent targets for habitats and species found in the London Borough of Bromley.
- Raising awareness of biodiversity issues and improving availability of information to all residents of the Borough.
- Encouraging local people to be involved in the BBP in a direct and practical way.
- Ensuring a long-term strategy for conserving, protecting and enhancing biodiversity exists and that it is regularly reviewed.

General Actions for Biodiversity in Bromley

There are a number of general actions that may be applied to all habitats and species in the Borough as part of the BBP. These common strands are identified here under the headings: Policy, Land and Species, Management, Advice, Publicity & Education, and Monitoring & Research.

Interpretation and application to Bromley's Woodland

Much of the action accomplished through the BBP contributes to action for Greater London's biodiversity, and vice versa. A great advantage of a regional approach is that it enables issues of a London-wide basis to have a louder voice and so receive greater attention.

An audit of London's habitats and species, the programme of delivery of generic actions, detailed habitat and species action plans and statements for London are included within the London Biodiversity Plan. The London Biodiversity Plan is an effective attempt to promote a common agenda amongst organisations and authorities working in the capital with interest or influence on its wildlife, in order to make progress in a strategic way. Green space Information for Greater London (GIGL) aims to collate and manage all data for London's green spaces, for example. The London Biodiversity Partnership brings together public, private and voluntary organisations working together for wildlife and people. Since its inception, various partners of the Bromley Biodiversity Partnership influence and contribute to the work of the London Biodiversity Partnership, through the efforts of its working groups and London Boroughs Biodiversity Forum (LBBF), for example.

Elements of the BBP have regional and national significance, as well as local significance for the Bromley's woodland sites in e.g. the stag beetle is in decline internationally; LBB forms part of the National Stag Beetle Focus Group.

Bromley's Woodland Management plans support the BBP in the following points of its policy:

- Promote and support implementation of the UK Biodiversity Action Plan through contributions and revisions to HAP's and SAP's.
- Promote and support implementation of countrywide and regional biodiversity strategies and contribute to revisions.
- Promote and support the London Biodiversity Partnership
- Encourage the adoption and contribution towards the (implementation of) BBP by a wide range of organisations and individuals.
- Devise and actively pursue novel ways to engage people's interest and involvement.

- Comply with, implement, support, promote and influence documents that impact on biodiversity (e.g. legislation, regulations, planning legislation and guidance, national and regional initiatives and strategies, good practice procedures).
- Safeguard existing designated sites of landscape and wildlife value and seek designation of further areas, including amendment to boundaries.
- Increase opportunity for habitats and species, minimise threat, promote flagship species and limit negative indicator species
- Allow available survey work to inform management taken.
- Actively promote uptake of grants for habitat creation and management and maintain existing grant agreements: Environmental Stewardship, England Woodland Grant Scheme, Wildlife Enhancement Scheme etc.
- Organise and facilitate practical conservation tasks to enhance biodiversity, through Council-run projects, wildlife-organisation projects, community-led action etc. Supporting existing voluntary and community action, and expand where possible.
- Implement the UK and London BAP where appropriate.
- Promote enjoyment of parks, open spaces, Local Nature Reserves and the wider countryside.
- Through 'on site' temporary notice boards (e.g. alongside volunteers at work on practical projects) and displays at local events etc.
- Provide biodiversity information (e.g. BBP document, guidance notes, progress towards targets events, features, volunteer projects, annual reports) on Bromley Knowledge and through websites run by other stakeholders.
- Support training for and involvement in wildlife survey initiatives. Organise appropriate training at various levels, including licensed surveyors (for staff, targeted groups, general public etc.)
- Provide clear advice on survey techniques, information on where records are to be sent and feedback on collated results.

Habitat Action Plans (HAPs)

Woodland HAP

The vision of the woodland HAP is to sympathetically manage all ancient semi-natural woodlands, over one third of London's total, and to care for species important to Bromley.

AIMS:

- To protect woodlands and trees which are of landscape, wildlife and historic interest.
- To encourage the conservation and sympathetic management of the Borough's woodlands, and where possible increase their sustainable economic use.
- To encourage the planting of trees and the establishment of new woodlands in appropriate locations.
- To promote a greater interest and enjoyment of woodlands by the public.

Interpretation and application to Bromley's woodlands

The policy and strategy of the woodland HAP supports actions of the UK BAP, England Biodiversity Strategy for Woodlands and Forestry and the London BAP as well as London Trees and Woodlands Framework. SHW's management plan supports the HAP in the following points of the policy:

- Promote Bromley's Woodland (Indicative Forestry) Strategy
- Seek opportunities for woodland surveys, planting, enhancement, acquisition and access within the planning process.
- Attend and contribute towards the work of the Woodland Working Group (LBP).
- Ensure continued input into London Tree Officers Association.
- Hold meetings of the Woodland & Ancient Tree Working Group.
- Woodland Management & Creation
- Produce management plans for all council-owned woodlands
- Promote natural regeneration of ancient semi-natural woodlands through appropriate management; plant native trees if necessary, using local provenance tree nurseries.
- Ensure deadwood is adequately represented in woodland management plans.

- Consider ancient trees as part of woodland management plans
- Provide the public with a webpage to increase awareness of Bromley's woodlands, their management and the activities with which they can become involved.
- Maintain and promote an accessible database of relevant woodland experience
- Raise awareness of grant availability for the establishment of new woodlands and woodland management.
- Organise open/demonstration days to promote actions undertaken on Council-owned land or privately-owned land to other woodland owners.
- Undertake NVC surveys of ancient semi-natural woodlands.
- Monitor important woodland species identified locally and under the UK & London BAPs.
- Create and monitor glades where relevant, as part of management plans.
- Maintain awareness of the impact of damage by 'pests', and extent of diseased trees and invasive species.
- Implement standard methodology, to be devised by the Forestry Commission, for assessing condition, stand, and age structure and tree survivorship.
- Identify buffer zones for SINC and other woodland.
- Promote recording of bird species and detailed survey work of birds within woodlands.
- Encourage community involvement and a greater understanding and enjoyment of trees, woodland and associated species and traditional skills Encourage public access to woodland in areas where this is appropriate, ensuring minimum damage.
- Encourage the better use of woodlands for formal and informal education.
- Promote efforts for increasing understanding and involvement with woodlands amongst youth groups.

**Complementary Plan:
Urban Habitat Action Plan**

Bromley's woodland and their management support the Urban HAP's aims in the following ways:

- Identify the extent of urban habitat and key 'corridors' of urban green space.
- Survey urban habitats and any remnant semi-natural habitats they contain.
- Conserve and enhance the biodiversity of urban habitats and look for opportunities to expand corridors.
- Strive to provide accessible urban habitat sites within one kilometre of residential areas.
- Increase awareness of the role urban habitats play in supporting wildlife.

Appendix 5.0: Management of Pests and Diseases

Over the last few decades the UK has experienced increasing threats to Plant Biosecurity (agricultural, horticultural, forestry and environmental plants) as increased global trade acts as a pathway for the arrival of new organisms, with impacts potentially exacerbated by climate change and EU enlargement (new pathways of introduction into the EU). This has been highlighted by the increasing number of plant disease and pathogen outbreaks, most notably in relation to trees. Such examples include: Ash Die-back *Hymenoscyphus fraxineus* (*Chalara*), Horse Chestnut bacterial canker (*Pseudomonas syringae* pv. *aesculi*), effecting large populations of trees, *Phytophthora ramorum* and *P. kernoviae* affecting trees, heathland plants and heritage gardens; Oak Processionary Moth (*Thaumetopoea proceSSIONea*), with its associated threat to human health; and In the wider European arena, the introduction and spread of pine wood nematode and red palm weevil are examples of recent high profile biosecurity failures.

The cumulative impact of climate-induced stress and of any associated changes in the impact of pests on the trees is uncertain in the medium-long-term, but new pests, diseases and pathogens are appearing. It is therefore vital that the Council remains abreast of developments and is able to adapt strategically to new challenges. The Trees and Woodlands Team have been at the forefront of managing threats to date with its key involvement in managing the Bromley/Croydon OPM outbreak and its management of its declining horse chestnut population.

It is unlikely that there will be any significant short-term increase in the resource commitment as a result of new threats, a flexible approach will therefore be necessary to meet any challenge posed by any long-term changes.

Any tree and woodland strategy must be seen to prioritise adequate resources in a timely fashion to deal with such threats, especially when these are related to the health of the tree stock and may also present serious public health issues. (Ref GLA and FC, 2013, p.36)

Relevant Documents List

London Borough of Bromley Tree Risk Management Strategy (Draft)

London Borough of Bromley Trees and Subsidence Policy (Draft)

London Borough of Bromley Biodiversity Plan 2015-2020 (Draft)