



Making London's Woodlands Work

Full report - Generating evidence for future action



November 2017

SUPPORTED BY
MAYOR OF LONDON



GiGL



Report written by:
Amy Hammond & Jude Hassall
Lantern (UK) Ltd
Email: amy@lantern.uk.com
Tel: 01372 728 465 Mob: 07815 832 243

& Craig Harrison
London Manager
Forestry Commission England
Craig.harrison@forestry.gsi.gov.uk

Contents

Executive summary	4
1.1 Project Objectives	7
2 Project background	9
2.1 What is woodland?	9
2.2 Woodland management	9
2.3 Benefits of woodland management	9
2.4 Ecosystem services	10
3 Existing woodland information	11
3.1 Overview of London’s woodlands using existing data	11
4 Policy context and other relevant work	14
4.1 Links to national and London FC work and other relevant projects	14
5 Project methodology	16
5.1 Overarching approach	16
5.2 Mapping	17
5.3 Survey	19
5.4 Workshops	19
6 Findings and discussion	21
6.1 Amount of woodland	21
6.2 Ownership	30
6.3 Levels of woodland management	30
6.4 Management issues	32
6.5 Woodland management priorities	33
6.6 Support for woodland management within boroughs and other organisations	35
6.7 Community involvement and engagement	36
6.8 Resources and challenges	39
6.9 Skills and training requirements	42
6.10 Funding barriers, ideas and opportunities	43
6.10.1 Barriers to funding	44
6.10.2 Funding ideas and opportunities	44
7 Conclusions	46
7.1 Data	46
7.2 Definition	46
7.3 Ownership	47
7.4 Current management	47
7.5 Opportunities and barriers to woodland management	48
7.6 Community woodland management & advocacy	48
8 Recommendations and next steps	49
8.1 Advocacy- the benefits of urban woodland management	49
8.2 Enhanced evidence base and monitoring	49
8.3 Building capacity to manage more woodland and increase the understanding of the value of woodlands and wood	50
9 Acknowledgements	50
10 Appendices	51
Appendix 1 - Project partners	51
Appendix 2 - Workshop Attendees	52
Appendix 3 - National policy context	53
London policy context	55

Executive summary

Introduction

London's woodlands provide a range of environmental, social and economic benefits. To ensure that these are fully realised they should be sustainably managed – including selective cutting of trees – to create a diverse habitat, improve public access, generate woodland products, ensure the woodland is contributing to cleaning London's air and reducing the adverse impacts of climate change.

Ownership and management of London's woodlands is not well understood, with a general perception that much of it is owned and managed by public bodies such as Boroughs and other non-governmental organisations. Official figures suggest that only 25% of London's woodlands are being actively managed but we suspect this is an under estimate.

This project sought to better understand the condition of London's woodlands and identify opportunities to increase the level of sustainable management for social, environmental and economic benefit. This was done through (i) mapping work (ii) a survey and (iii) workshops that generated feedback from the majority of London's Boroughs plus other key landowners. These organisations geographically cover 97% of London's woodland area.

Woodland Distribution and Ownership

48% of Boroughs felt they had a full understanding of what woodland they owned. Based on Borough feedback and the London i-Tree Eco Report ("Valuing London's Urban Forest"), we know that woodland ownership is broadly 40% public and 60% private. In London there are hundreds of owners which make cohesive management at landscape scale complex. The lack of consistent ownership and management recording creates a challenge for strategic analysis and planning.

Of the 12,899 hectares of woodland in London, some groups of trees currently defined as woodland by the Forestry Commission are within a parkland or garden landscape and may not be managed in traditional woodland terms. It is important that sustainable woodland management principles are still applied to protect, improve and expand the tree canopy.

Management Priorities

Health and safety was a high priority for 77% of survey respondents. The provision of public access and biodiversity were also ranked as high priority, whilst woodland products were a low priority for 81% of local authority respondents. Some responses indicated management priorities that are 'target led', short term and do not reflect the woodlands needs or issues.

Management Planning and implementation

41% of respondents have a tree and woodland strategy, varying in the level of detail and degree of implementation. 21 out of 27 boroughs have some form of management plan across some or all of their woodlands. 15 with plans have recorded activities taking place whilst 3 boroughs without plans have management activities taking place.

Some woodlands within London are thought by those responsible for them to be critically threatened.

Threats to woodlands included pests and diseases, public misuse, lack of management and development. Boroughs noted the perceived threat of development as being ever present.

The national average percentage of woodland in management is 57%, and this study has identified that more of London's woodlands are managed than official figures suggest (25%). If assumptions were made that designated woodlands and those owned by the Royal Parks and City of London were managed, the percentage of managed woodland could be as high as 50%. This is likely to be optimistic and further investigation would be required to hone the percentage in management figure.

Resources

Non-borough organisations taking the survey noted staff resources and public concern as their biggest management issues. Boroughs noted the level of woodland management activity being affected by the availability of dedicated staffing resources or specified budget.

8% of survey participants felt that the resources committed to woodland management in their borough reflected their priorities and 40% said their priorities were not at all reflected in their allocated resources.

There was no definitive correlation between the amount of woodland cover within boroughs and either dedicated budgets or staffing levels. Boroughs generally noted a lack of dedicated woodland staff within their teams. There was a broad consensus that support needs to be tailored to reflect urban forestry context/needs, such as bespoke funding and management plan templates.

Working in resource constrained times will necessitate investigating new ways of working and alternative funding if uplift in sustainable management is to be achieved.

Community involvement and engagement

Community woodland groups regularly begin in response to a perceived threat to a local site or from a position of local interest. Types of engagement varied between sites. Community woodland groups tend to focus on lighter woodland management using hand tools and needed trained supervision either initially or in the long term to be effective. In terms of wider public engagement, only two boroughs out of 26 that answered monitored the level of public usage of their woodlands.

The study highlighted scope for community engagement and recognition of the benefits this could generate. It highlighted significant concerns amongst some about engaging local communities but there are good examples where such engagement has been effective and could be replicated elsewhere. Community involvement could help deliver woodland management but would need support to be effective.

Advocacy

There was a call for a high level of advocacy needed across London and within boroughs. Woodland management is currently seen by many within borough management as a cost and potential management benefits (economic, social and environmental) are not factored in.

The benefits of urban woodland management also need continued promotion amongst the general public, so people are not fearful of tree felling and recognise that sustainable management increases social, environmental and economic benefits. A suite of London/urban focused advocacy materials could aid future activity. Case studies demonstrating good examples of sustainable woodland management would help demonstrate real world activity and benefits.

Conclusions

Some of London's woodlands are considered to be under critical threat from a range of pressures. A lack of pan London ownership and management information, sustainable management plans and resources at landscape and local scale also mean that, although woodlands provide a valuable recreational resource, the environmental and economic potential of London's woodland is not being fully realised. Common barriers to management are lack of long term/strategic thinking, resources, public perception of tree felling and lack of recognition of the benefits that woodlands provide.

There are good examples of well managed woodland for social, environmental and economic benefit that can be applied across London – see www.forestry.gov.uk/london-awards for exemplars. There are also opportunities to develop new approaches to increase the level of woodland management. Initiatives to help realise the value of woodlands either economically, environmentally or socially such as development of wood product markets, payment for ecosystem services provided or development of leisure opportunities could provide the incentives needed to help manage London's woodlands in the future.

Call for Action

To increase the level of woodland management and realise the enormous benefits they provide we need:

Collaboration - As many of London's woodlands are relatively small it would be more beneficial for woodlands to be managed at the landscape scale as networks; with management plans and funding coordinated across multiple sites.

New approaches - by sharing existing good practice and developing new ways to increase management activity including provision of training, market development for wood products, community group management and encouraging landscape scale approaches.

Sustainable plans – Borough Tree strategies and woodland management plans should be produced to better understand the woodland resource and define long term sustainable objectives / activities. Plans will also help develop a strategic and consistent evidence base on woodland management ownership and management status. FC funding is available to produce woodland management plans.

Promotion of the benefits of managed woodland - Continued promotion of the benefits of sustainable management to woodland owners and the public will highlight the benefits that managed woodland provides.



Introduction

Woodlands provide a range of environmental, social and economic benefits. To ensure that these are fully realised woodlands need to be well managed. According to National Forest Inventory (NFI) figures London has approximately 13,000 hectares (ha) of woodland distributed across 32 local authority areas (plus City of London).

The ownership of woodland in London is not fully understood and whilst much woodland is assumed to be in public ownership either by local authorities or pan London organisations such as Transport for London (TfL) there is insufficient data on this.

According to the Forestry Commission's (FC) indicators, based on woodland grant and felling licence applications, management in London's woodlands is currently only 25% of the total resource. This is significantly lower than the national average of 57%. However, at present, like ownership, there is limited intelligence on actual woodland management practices across London and anecdotal evidence indicates that current Forestry Commission (FC) figures do not reflect the actual situation.

London's woodlands are subject to high levels of public use and because of their proximity to the local population could offer greater potential for social benefit than more rural sites. A greater understanding of the resource, who owns it and how it is managed, is needed in order to ensure that London's woodlands thrive and are able to deliver a full range of benefits.

This project sought to address these issues by gathering evidence to understand the ownership and management status of London's woodlands and to help inform future action for all organisations working to improve the condition of woodlands in London.

1.1 Project Objectives

The overall aims of this project were:

- To better understand and document current levels of woodland management and ownership in London
- To develop a baseline against which the impact of future activities can be compared
- To establish what support, resources and delivery models are required to sustainably increase levels of woodland management in London
- To produce a set of evidence-based recommendations for future woodland-focused activities in London.

This report summarises the findings of the research and is aimed at the following groups:

- Policy makers within regional and local government and within organisations responsible for the management of woodland areas within London
- London Tree Officer network and other Borough staff involved in tree and greenspace management
- NGO's and charitable organisations responsible for the stewardship of woodlands in London
- Forestry Commission area teams

The project was commissioned by the FC in order to investigate levels of management in more detail. The FC has a corporate target to increase the percentage of England's woodland in sustainable management to 67% by 2018.

This work compliments other FC national programmes aimed at gaining greater insight into ownership and management of woodlands across England and local initiatives aimed at supporting greater levels of management within the Capital.

The report covers the following:

- Project background
- A review of existing information
- Project context
- Methodology
- Findings of research
- Conclusions and recommendations



2 Project background

2.1 What is woodland?

The National Forest Inventory data classifies woodland as areas above 0.5ha under stands of trees or with the potential to achieve canopy cover of more than 20%. Given that the data is derived from ordinance survey satellite imagery, land use is not a defining factor so sites may be identified as woodland that would otherwise be defined as parks, cemeteries, golf clubs or other public amenity spaces.

2.2 Woodland management

The UK Forestry Standard (UKFS) is the reference standard for woodland management in the UK and sets out the approach of the government to sustainable forest management. The standard was developed by the Forestry Commission, endorsed by UK and country governments and applies to all forests and woodlands in the UK. The standard was developed in response to international biodiversity agreements reached at the Rio Summits and subsequent Europe wide implementation. The guidelines for management under the UKFS follow an ecosystem approach which can be summarised as:

“A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”

The aim is that through sustainable forest management a range of benefits can be delivered rather than a single focussed approach to management whereby one objective can successfully be delivered and the range of benefits is limited.

2.3 Benefits of woodland management

The Forestry Commission estimates that approximately 57% of UK woodlands are currently unmanaged or undermanaged rising to 75% in London. Studies from the 1960's onwards by a range of organisations including the RSPB¹, Butterfly Conservation², Plantlife³, Forest Research⁴ and the on-going Countryside Survey,⁵ have highlighted the decline in a range of woodland species and changes in woodland condition. They have also provided considerable evidence of the link between active levels of woodland management, increased biodiversity and woodland productivity.

¹ Woodland in England: righting the wrongs of the past. http://www.rspb.org.uk/Images/woodland_england_tcm9-162610.pdf

² The South East Woodlands Project: rebuilding biodiversity through woodland management. <http://butterfly-conservation.org/files/s12-04-the-south-east-woodlands-project---final-report.pdf>

³ Forestry Recommissioned: Bringing England's woodlands back to life. http://www.plantlife.org.uk/uploads/documents/WR_web.pdf

⁴ Woodland management for timber and wood products: The impact on public good outputs: A report to the Forestry Commission and DEFRA (July 2006). [http://www.forestry.gov.uk/pdf/woodland-management.pdf/\\$file/woodland-management.pdf](http://www.forestry.gov.uk/pdf/woodland-management.pdf/$file/woodland-management.pdf)

⁵ Countryside Survey – measuring change in our countryside (1978, 1984,1990,1998, 2007) <http://www.countryside-survey.org.uk/reports-2007>

2.4 Ecosystem services

The environmental, social and economic benefits that woodlands can provide can be understood in terms of a range of ecosystem services provided by woodlands to society. Table 1 below outlines these services and provides woodland examples.

Table 1 Ecosystem services provided by woodlands

Service	Description	Example
Provisioning	Products obtained from the ecosystem	Food, fresh water, woodfuel, fibre, biochemicals
Regulating	Benefits obtained from regulation of ecosystem processes	Climate regulation, pest & disease regulation, water regulation, water purification, pollination
Cultural	Non-material benefits obtained from ecosystems	Spiritual and religious, recreation, aesthetic, educational, sense of place, cultural heritage
Supporting	Services necessary for the production of all other ecosystem services	Soil formation, nutrient cycling, primary production, water cycling

Sustainable woodland management is based on the balanced delivery of these services ensuring the maximum benefits are obtained from woodlands. This benefits the woodland ecosystems themselves as well as wider society. The balanced delivery of these potential benefits underpins the approach that the government has taken to sustainable forestry, encapsulated within the UK Forestry Standard which makes specific reference to include “the collective tree and woodland cover in urban areas”.

London’s urban woodlands have the potential to deliver significant benefits – not only social benefits relating to London’s 8.5M population, but environmental and economic ones. However, existing data indicates that management in London is relatively low and so these potential benefits are not being fully realised.

3 Existing woodland information

Existing data sources were assessed for the purposes of identifying management and ownership of woodlands across London. A combination of national datasets, including National Forest Inventory data for overall woodland cover and Forestry Commission data on grants and licences, were reviewed together with London biodiversity and habitat data sets held by Greenspace Information for Greater London (GiGL). The existing data provided the baseline from which assumptions of management, ownership and in some instances actual woodland cover, were tested and further knowledge on sites gathered.

3.1 Overview of London's woodlands using existing data

National Forest Inventory (NFI) data has identified 12,899 ha of woodland in London. According to NFI data there is some woodland cover in every London borough with increasing cover in the outer boroughs. Table 2 below summarises NFI woodland cover data across boroughs in order of size as well as borough involvement in the project. The Forestry Commission (FC) collects data on levels of woodland under management from its grants and licensing function. In order to access grants for woodland activities a management plan must be submitted and approved by the FC and in most cases felling activities must be approved and granted felling licenses. The FC uses this data to track the level of management occurring in woodlands.

Ownership of London's woodlands is not well understood. Until now, it has been assumed that the majority share of woodland ownership consisted of borough owned public green space, the Royal Parks, City of London Corporation, Transport for London, London Wildlife Trust and smaller scattered holdings of woodland based NGO's. Beyond this, ownership patterns are unclear.

Table 2 Total woodland cover (NFI) and managed ha FC indicator data

Administrative area	Total woodland area (ha) NFI	Total managed woodland area (ha) FC Indicator data (based on 2014 data)	Completed survey	Attended workshop
LB Bromley	2,181	744.4	Yes	No
LB Croydon	1,101	491.9	Yes	Yes
LB Hillingdon	1,035	287.7	Yes	No
LB Havering	903	280.4	Yes	Yes
LB Barnet	788	159.2	Yes	No
LB Richmond upon Thames	743	306.6	Yes	Yes
LB Enfield	664	17.6	Yes	Yes
LB Bexley	471	50.9	Yes	Yes
LB Greenwich	451	103.9	Yes	Yes
LB Harrow	429	2.4	Yes	Yes

LB Waltham Forest	405	266.3	Yes	No
LB Redbridge	368	125.4	Yes	Yes
LB Merton	335	153.2	Yes	Yes
LB Hounslow	331	0	Yes	Yes
LB Camden	299	0	Yes	Yes
LB Wandsworth	285	109.6	Yes	Yes
LB Haringey	274	0.1	Yes	Yes
City of Westminster	265	0	Yes	No
LB Ealing	208	0	Yes	Yes
LB Kingston upon Thames	192	7.2	Yes	No
LB Southwark	182	9.1	Yes	Yes
LB Lewisham	173	0.1	Yes	No
LB Brent	145	26.7	Yes	Yes
LB Sutton	144	6.8	No	No
LB Hackney	89	12	Yes	Yes
LB Tower Hamlets	84	0	No	No
LB Newham	75	0	Yes	No
LB Lambeth	71	2.3	Yes	Yes
LB Kensington and Chelsea	63	0	Yes	No
LB Hammersmith and Fulham	52	0	No	No
LB Islington	48	0	No	Yes
LB Barking and Dagenham	42	2.3	No	No
City of London	3	0	Yes	Yes
Total hectarage and total managed hectares	12,899	3,166	24.5% managed	

The NFI and FC data currently available indicate the significant differences between reported woodland cover and levels of management across London with only 25% of the total woodland area under management by this measure. Anecdotal evidence indicated that there was a mismatch between these figures and local understanding of woodlands and management.

A number of interpretations are possible:

- Significant amounts of woodland in London are currently in a state of non-management and therefore potentially not delivering the full range of benefits possible from well-managed woodlands as well as presenting potential risks of declines in biodiversity
- Forestry Commission figures may not accurately represent the amount of management occurring in woodlands

This baseline evidence provided a starting point for the analysis of gaps in understanding as well as a point from which to examine the anomalies between woodland cover and measured levels of management. The existing data also guided the direction of the research.

The pie chart displays segments with no percentages allocated apart from the FC indicator managed segment at 25%. This graphically illustrates the gaps in current understanding of the status of London's woodlands and which this project seeks in part to address.

Figure 1 below graphically explains the issue and broad aims of this project. The pie chart represents the 13,000 hectares of woodland in London. All we definitively know is that there are just over 3,000 hectares of woodland measured as managed (dark green) on the basis of the presence of a felling licence or Defra grant scheme. We know that there are other woodlands that are being sustainably managed but not recorded (light green), and that other woodlands have lower, little or no management in place. The key issue is that we do not know the number of hectares involved, and do not have an intelligence base regarding ownership, levels of management and reasons for lack of / barriers to management.

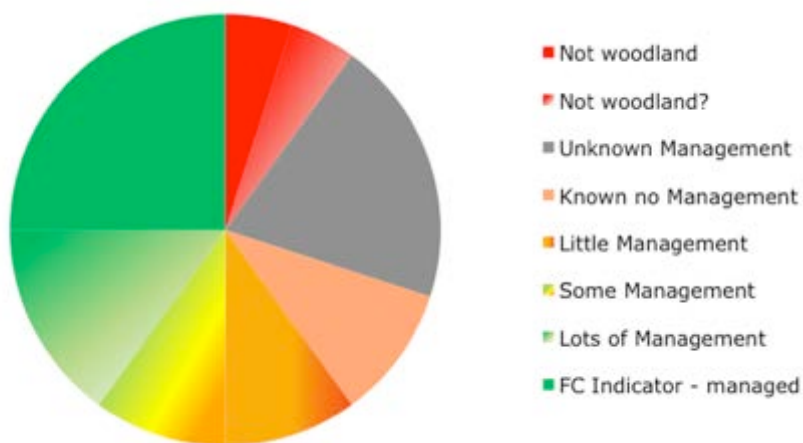


Figure 1 Woodland ownership and management in London

These gaps in knowledge defined a key set of questions:

- *How much woodland is there in London?*
- *Who owns London's woodlands?*
- *What state of management are they in and how can it be measured?*

4 Policy context and other relevant work

There are multiple national and London policy initiatives relating to woodlands in the UK and London. A guide to relevant policy can be found in Appendix 3.

4.1 Links to national and London FC work and other relevant projects

This project forms part of a larger body of evidence gathering and implementation work being undertaken by the Forestry Commission (FC) as part of achieving its core aims. The following projects complement the work being done in London and relevant activities and findings incorporated into this project.

FC South West woodland identification project

This pilot project in South West England uses mapping data to help identify and target clusters of woodland where ownership and management status is unknown. A methodology was developed and trialled in this region before rolling out to the rest of England.

London i-Tree Eco project

i-Tree provides a method for valuing the ecosystem service benefits of trees. In 2014 London's trees were surveyed to calculate their value. It is hoped that this will prove a useful tool to influence the long-term management of London's street tree and woodland resource.

<http://www.treeconomics.co.uk/wp-content/uploads/LONDON-I-TREE-ECO-REPORT-151202.pdf>

www.forestry.gov.uk/london-itree

Community Management of Local Authority Woodlands in England, Shared Assets (Dec 2013)

This report assessed existing information on the management of local authority woodlands and the extent of engagement with community groups and social enterprises.

<http://www.sharedassets.org.uk/wp-content/uploads/2014/01/LA-woodlands-Dec-13-final-version.pdf>

The Urban Woodland Project - Groundwork (2015)

Provides online resources for woodland community groups. This work is supported by the FC to encourage greater community involvement in woodland management.

<http://www.groundwork.org.uk/Sites/london/Pages/urbanwoodland>

FC South East woodland and woodfuel resource data

The Forestry Commission estimates that around 35,000 m³/yr of wood would be available if two-thirds of London's woodland resource was actively managed. This would be in line with the Government's response

to the recommendations of the Independent Panel on Forestry which supports the aim to bring two-thirds of woodlands back into active management by 2018⁶. From this, it is estimated that in London 1,000 m³ of conifer sawlogs, 3,000 m³ broadleaf sawlogs and 30,000m³ lower quality wood could be sustainably produced.

Forestry Commission non-woodland inventory (published since this study was concluded)

Analysis of the Blue Sky National tree Map, coupled with manual aerial photo and field plot validation, has highlighted that non-woodland trees play a significant role in lowland areas, in Southern England and in areas of high population. It confirms that in London woodland makes up only around one third of the total tree canopy cover and hence non-woodland trees (defined in the report as small woodlands, linear woods, groups of trees and single trees) play a key role in the delivery of benefits to society. The study provided headline statistics about non-woodland trees but the standard error is currently such that use of specific map information would be misleading and prone to misinterpretation.

www.forestry.gov.uk/inventory



⁶ <https://www.gov.uk/government/publications/government-forestry-policy-statement>

5 Project methodology

5.1 Overarching approach

The project team reviewed existing evidence to understand what is currently known about the management, size and ownership of London's woodlands. This review enabled the team to identify gaps in knowledge and helped inform the development of a project methodology based on the most appropriate combination of activities to test the validity of existing data and to capture new data and information.

Three project activities were undertaken:

- Mapping of existing woodland ownership and management information to provide a visual representation of the current situation
- Online survey created for London borough tree and woodland officers and major non-local authority woodland owners to capture additional information on woodland management within their boroughs/organisations
- Workshops to provide a forum for collecting feedback on existing data (presented in the maps) and new knowledge and information from borough officers and other woodland owners

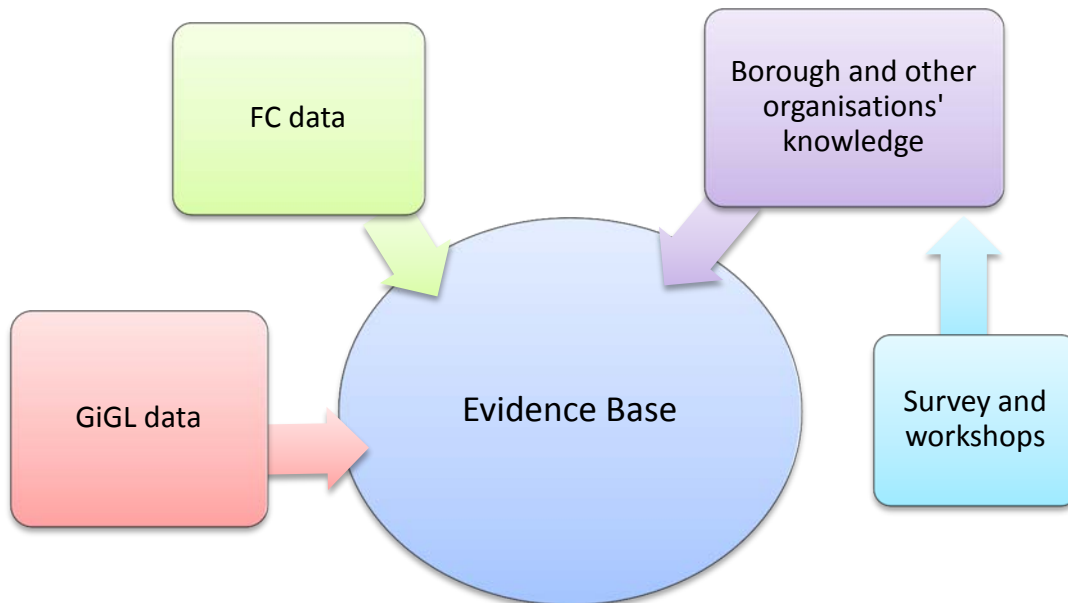


Figure 2 Illustration of inputs to evidence gathering exercise

5.2 Mapping

A1 maps of each Borough were created to help identify woodland sites, their management and ownership status. Principal data sources were identified to comprise the baseline map layers. The following datasets were used to create the maps:

FC – National Forest Inventory, Managed Woodland Headline Indicator

GiGL – Woodland habitat, Open Space Sites, Sites of Importance for Nature Conservation

Natural England – Sites of Special Scientific Interest, National Nature Reserves, Local Nature Reserves

London Wildlife Trust – LWT reserves

The Royal Parks – Royal parks sites

Ordnance Survey – London boroughs, private gardens

The principal aim of the maps was to identify where woodlands are in London and what their management and ownership status was. On this basis, a set of assumed woodland status categories were developed which could be mapped using the available datasets. Figure 3 below shows the map legend with site status clearly identified.

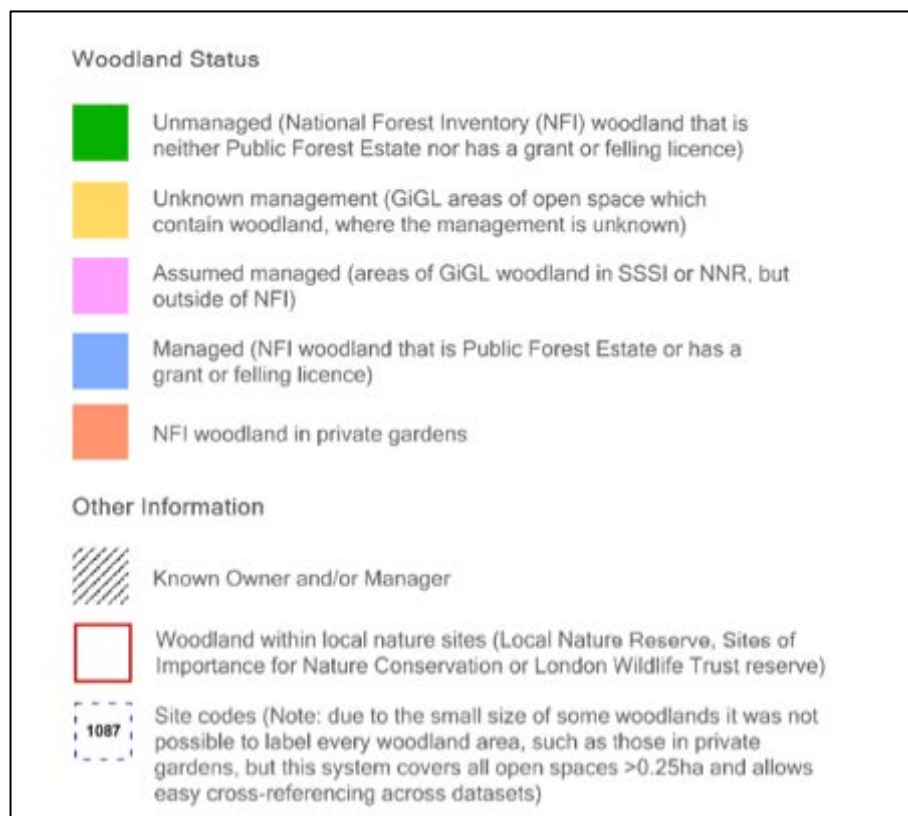


Figure 3 Woodland map legend

Each site was allocated a unique reference code to allow for easy identification and cross-referencing between different data sets, see Figure 4 below.

The maps were accompanied by spreadsheets, which contained more detailed site information for each coded site shown on the maps. The maps and spreadsheets were distributed to their relevant borough representatives at the subsequent workshops to collect information on ownership and management status. The example below shows a small map section with colour coded and site coded areas.

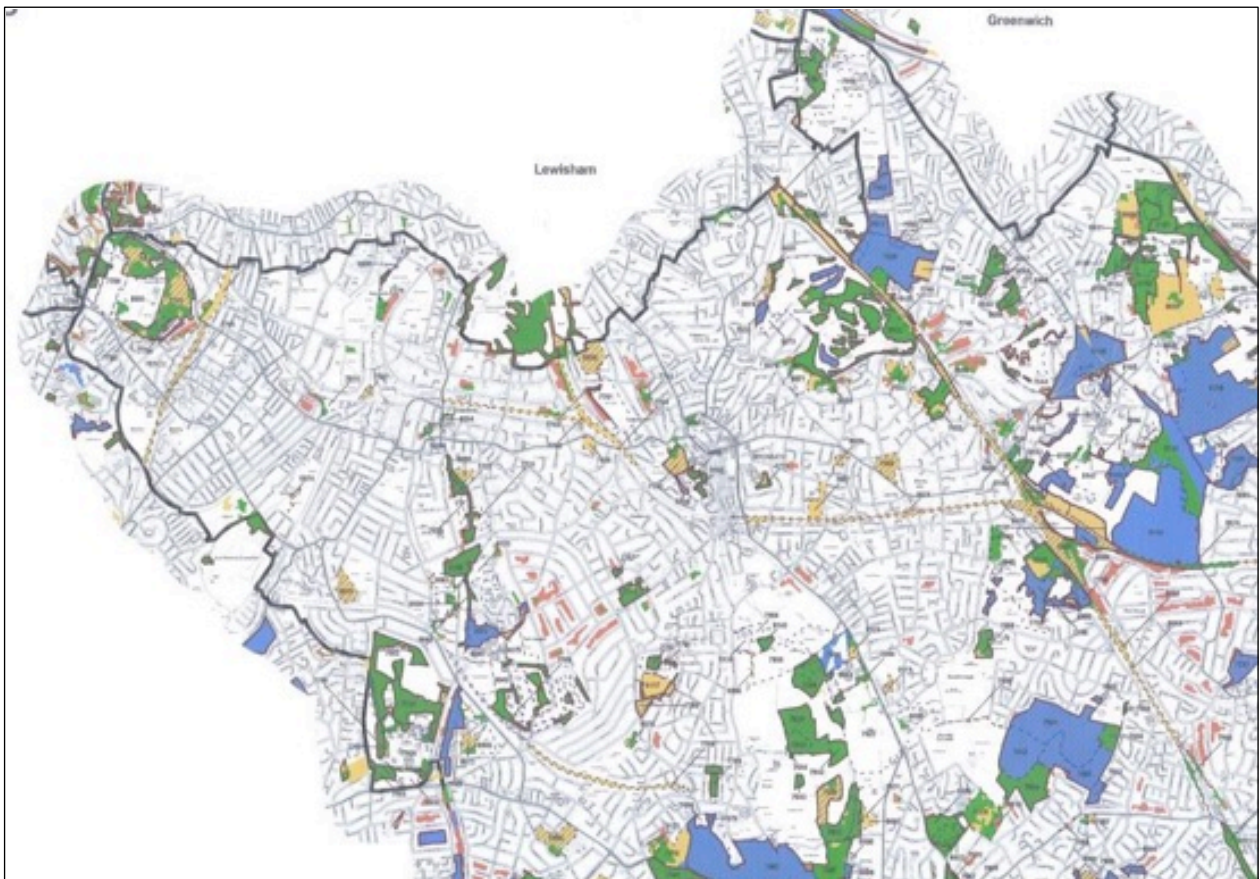


Figure 4 Detailed section of LB Bromley map

Figure 4 above shows a section of the Bromley woodland cover map. The map shows the colour coding used to identify sites in relation to their woodland management status.

- Blue areas are mostly LB Bromley woodlands that are in receipt of FC grant funding towards public access improvement and biodiversity work and consequently fall within the known managed category.
- Green is woodland identified through the NFI dataset about which there is no knowledge of management and potentially limited knowledge of ownership. Workshop sessions focused on these green areas in order to try to establish ownership and management status.

- Yellow denotes land identified by the GiGL openspace dataset that includes a varying percentage of woodland but for which there is no further information on management or ownership. Workshops sessions also focussed on these areas.

5.3 Survey

An online survey was developed to collect additional information on the following topics relating to London's woodlands:

- Woodland context - current level and type of woodland knowledge within the borough/organization
- Policy and governance – presence of strategic and political support for woodlands within the borough/organization
- Aspirations – ambitions for woodlands within the borough/organization
- Management planning – borough/organization wide status of management planning, including resilience of woodlands
- Active management – update on management activities taking place within the woodlands in the borough/organization
- Resources – time, budget, skills and people available for woodland management within each borough/organization
- Community involvement – community group involvement in woodland management and wider community engagement in relation to woodlands in the borough/organization
- Products – products coming out of borough/organization woodlands
- Skills – gaps in training and expertise for woodland management activities
- Networks – identification of networks helpful for woodland management support.

The survey was accessible online and was introduced at the workshops before being sent out to all 32 London boroughs, the City of London, Transport for London and the Royal Parks. Lantern followed up with all those who received a copy to encourage completion. The survey was completed by 27 of the 32 boroughs representing approximately 97.1% of borough owned woodland cover in London plus Transport for London, The Royal Parks and the City of London.

5.4 Workshops

A workshop format was selected as the most suitable way to gain feedback from borough officers on the information presented in the borough maps. It also provided an opportunity to introduce the project efficiently to a large audience and to enable officers to discuss and share information.

The workshop objectives were to:

- Explain the project
- Promote the benefits of sustainable woodland management
- Invite specific feedback on Borough maps
- Invite feedback on generic issues affecting London's woodlands e.g. barriers to management

Working closely with the London Tree Officers Association a workshop plan was developed and invitations issued. Other organisations known to own woodland were also invited, including the London Wildlife Trust, Transport for London and the City of London Corporation. Full attendee lists are included in the appendix.

Two workshops were held, on Friday 31st January 2015 and Friday 20th March 2015. Both workshops were held at the London office of the Forestry Commission at Nobel House.

Attendees were issued with a briefing sheet a week prior to the event, along with summary woodland data for their borough. Attendees were asked to bring relevant information they had on the day in order to make best use of the time available. Briefing sheets were also produced for each session to help guide group discussions.

Sessions followed the topics in the survey and were devised to be practical and interactive. The morning session focussed on reviewing and annotating the maps and accompanying spreadsheets, identifying and filling in missing and incorrect information. Other sessions were based on group and plenary discussions with facilitators recording feedback.



6 Findings and discussion

6.1 Amount of woodland

The Forestry Commission's NFI data states that there are 12,899 hectares of woodland in London. There is no centrally held source of data specifically for London woodlands and as already seen there are potential discrepancies between local understanding and national data.

Map analysis

- Orange areas on the maps show woodland on NFI but GIGL data/feedback suggests they are more likely to be groups of trees in gardens/streets. This equated to approximately 5% of the total woodland area
- Yellow areas on the maps show GiGL parcels of land that are known to have a proportion of woodland within (with a breakdown of habitat types within that polygon by %), but the precise woodland location is not spatially captured. The NFI data helps inform the location of woodland within those parcels.

Workshop feedback

Workshop attendee feedback suggested the analysis of yellow/orange areas was correct – that some apparent woodland was in fact groups of trees in gardens or in parks - and overall the view was that the NFI overestimated the amount of woodland. Some sample based ground truthing highlighted variation in the 'orange' garden sites – some were definitely not woodland, a few were and there were a few other sites that appear to be remnant woodland but have not been picked up in either NFI or GIGL data. On balance, the conclusion is that the 5% garden woodland identified through the mapping exercise is approximately correct.

Workshop feedback also highlighted that many woodlands or groups of trees within a recreation park were generally managed from a park perspective i.e. public access and recreation rather than woodland condition, structure & composition.

These findings generated discussion around what the definition of woodland is, particularly in an urban context. Factors discussed included canopy, overall structure/composition, land use, landscape context – with some variation in views. This raises issues regarding management approach and whether it should be defined as woodland / judged against the UK Forestry Standard – see management section 7.4.

The table below shows total woodland cover by administrative area according to national data sources, area managed according to FC indicator data, total local authority woodland ownership for the administrative area according to local authority survey responses and the percentage of that area believed to be under a Forestry Commission approved management plan.

Table 3 Summary of NFI woodland cover data, FC management indicator data and organization held data on woodland ownership

Administrative area	Total woodland area (ha) NFI	Total managed woodland area (ha) FC Indicator data	Local authority owned woodland (London woodland evidence base local authority survey)	Reported percentage total LA woodland under FC management plan (London woodland evidence base survey)
LB Bromley	2,181	744.4	552	80%
LB Croydon	1,101	491.9	518.83	100%
LB Hillingdon	1,035	287.7	1,000	Not stated
LB Havering	903	280.4	Unknown	75%
LB Barnet	788	159.2	164	5%
LB Richmond upon Thames	743	306.6	132.77	Approx. 60%
LB Enfield	664	17.6	Unknown	Not stated
LB Bexley	471	50.9	238	50
LB Greenwich	451	103.9	Unknown	Not stated
LB Harrow	429	2.4	Unknown	Unknown
LB Waltham Forest	405	266.3	27.66	Unknown
LB Redbridge	368	125.4	400.72	78%
LB Merton	335	153.2	80	0
LB Hounslow	331	0	25	Not stated
LB Camden	299	0	124	0
LB Wandsworth	285	109.6	100	Not stated
LB Haringey	274	0.1	50	90%+
City of Westminster	265	0	0	Not stated

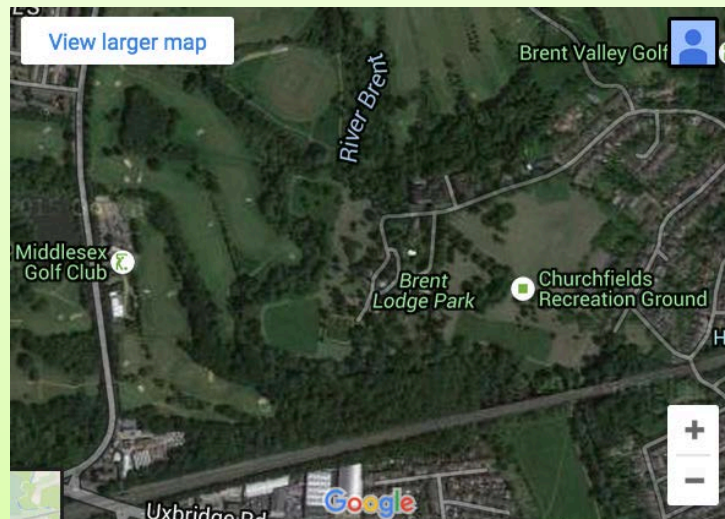
LB Ealing	208	0	46.78	Not stated
LB Kingston upon Thames	192	7.2	48	Not stated
LB Southwark	182	9.1	95	0
LB Lewisham	173	0.1	Unknown	Not stated
LB Brent	145	26.7	Unknown	Not stated
LB Sutton	144	6.8	Did not take part in the survey	Did not take part in the survey
LB Hackney	89	12	32.82	0
LB Tower Hamlets	84	0	Did not take part in the survey	Did not take part in the survey
LB Newham	75	0	17	Not stated
LB Lambeth	71	2.3	14.76	0
LB Kensington and Chelsea	63	0	2	Not stated
LB Hammersmith and Fulham	52	0	Did not take part in the survey	Did not take part in the survey
LB Islington	48	0	Did not take part in the survey	Did not take part in the survey
LB Barking and Dagenham	42	2.3	Did not take part in the survey	Did not take part in the survey
City of London Corporation	3	0	Unknown on exact amounts within London. 2,000 ha estimate.	20%
Transport for London	N/A	0	81	Unknown
Royal Parks	N/A	387	Did not respond to this question	Not stated
Total	12,899	3,166		

A number of issues are raised as a result of this analysis:

- If the NFI woodland size data is correct it would suggest that a potentially substantial area of woodland is in private or other non-local authority ownership including NFI woodland within private gardens. It is currently unclear who owns this woodland. Future work to translate and upload the mapping and spreadsheet results will help clarify this further.
- Seven of the boroughs believe that the NFI data is significantly higher than the actual amount of woodland present in their borough. Some identified sites included within NFI woodland datasets within parks, open public amenity spaces and cemeteries that were not considered by borough officers to be woodland. If this is the case then the possibility exists that this may also be the situation for other identified woodland sites throughout London. The example in the case study box below highlights two examples which may be repeated elsewhere and calls into question the reliability of NFI data for classifying small sites such as this as well as the definition of woodland from a borough perspective.
- There is no single, central, unified system across London for capturing woodland cover figures and consequently inaccuracies in definitions and totals exist. Five of the 32 boroughs did not take part in the workshop or survey. According to the NFI data these five boroughs have 370 hectares of woodland which represents 2.9% of the total amount of woodland cover.

Case study 1: Woodland cover in London boroughs of Ealing and Camden – project mapping versus ground truth

According to NFI data LB Ealing has 208 hectares of woodland within the borough. Included within this total is the Brent Lodge Park site. This site covers a total of 70.99 hectares according to NFI data, all of which is classified as woodland. The map below shows the site.



Source: Google maps

Case study: Woodland cover in London boroughs of Ealing and Camden continued...

Borough representatives however have estimated total woodland cover of 15.33 hectares at this site. This large site includes a golf course, a small zoo, open parkland and playing fields. The image below illustrates the type of landscape at this site.



Case study: Woodland cover in London boroughs of Ealing and Camden continued...

The Corporation of London own and manage Hampstead Heath (below), which sits within the LB Camden. NFI data records 169.68 hectares of woodland at this site. The Corporation of London estimates the figure to be much closer to 86.32 hectares of woodland. The site includes open stretches of heathland with scattered trees.

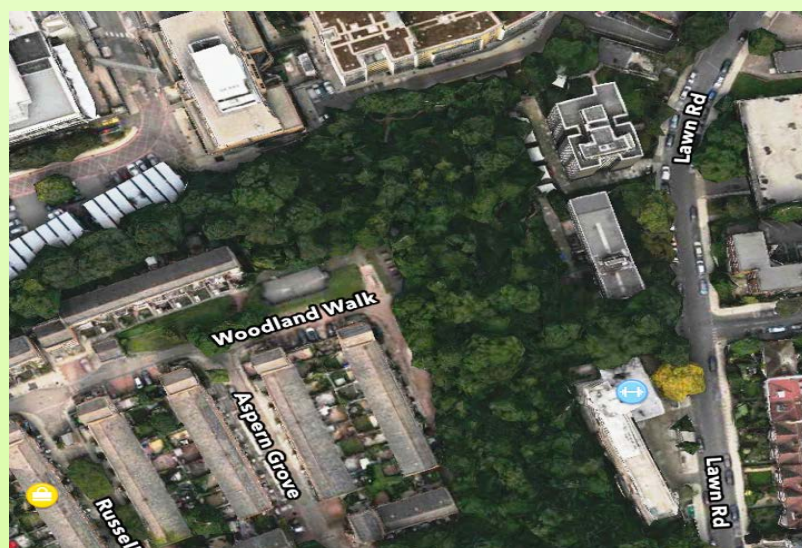


Case study 2: NFI data versus ground truthing – Camden

The London Borough of Camden has 299 hectares of woodland according to NFI data. Below are the overall map and examples of three sites classified as woodland according to NFI and the individual characteristics of those three sites



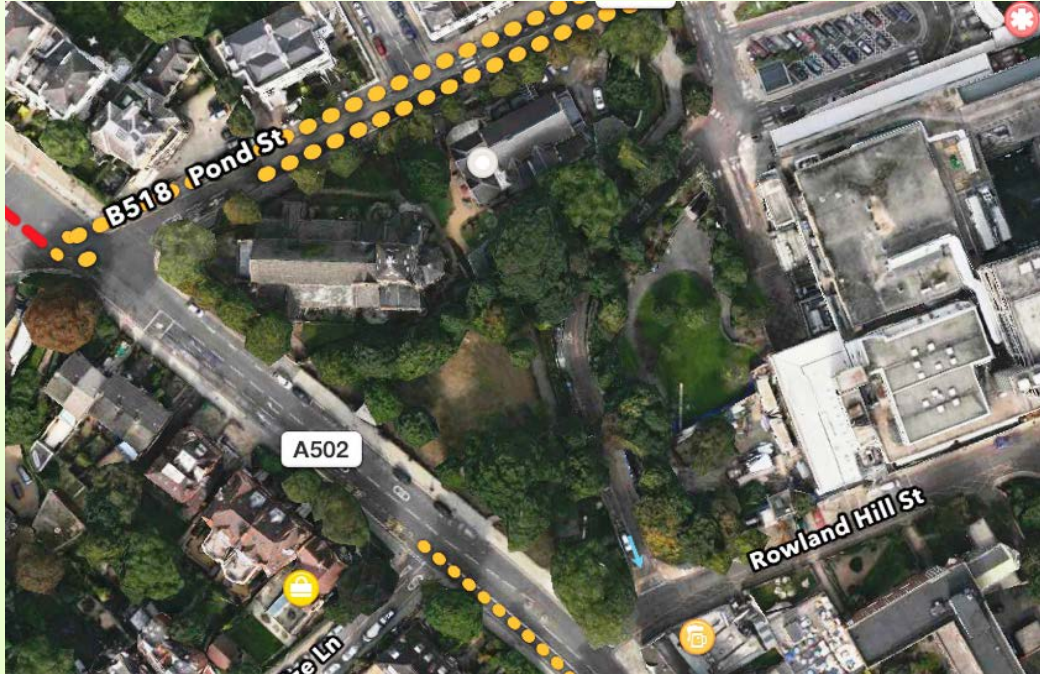
Woodland walk and Belsize Park, on NFI and definitely woodland with tree cover, structure and ground cover.





Belsize sensory garden (above) – not on the NFI. On the ground it has woodland character around the sensory garden (below), albeit a very small area.





Hampstead Green (above) – on the NFI with reasonable tree canopy but not woodland in terms of structure/composition (below)





Lyndhurst & Wedderburn Rd – on NFI but from aerial is clearly gardens backing onto each other. (above)

Ground truthing reveals a lot of tree cover but not woodland character - borders, veg patches, lawns, patios and decking etc (below)



6.2 Ownership

Of the local authorities surveyed, 48% stated they had a full understanding about the amount of authority owned woodland they have in their borough. The remaining 52% had partial information. Six boroughs either did not know or did not provide figures for how much woodland they owned. Five boroughs did not take part in the survey. The boroughs for which no hectare ownership was provided have approximately 25% of the total woodland cover within their authority areas. Of the local authorities that could provide details an estimated total of 3,672 hectares of woodland is under local authority ownership. This compares with the NFI total for the same boroughs of 9,761 hectares. For these boroughs only, this equates to a 37% ownership figure across those boroughs.

Across London, an estimated 3,055 hectares is owned or managed by other organisations that took part in this research. Of the other significant woodland owning organisations including the Royal Parks, Transport for London and The City of London Corporation, all three noted that they had full details of the size of the woodlands they were responsible for but only TfL was able to provide a detailed woodland cover figure. The City of London Corporation estimated approximately 2,000 hectares of woodland were owned by them in London. Their ownership also includes three hectares within their own boundaries of the City of London. This is included within the borough owned totals for the purposes of this analysis.

The Royal Parks did not provide figures on total amount of woodland owned by them but the parks themselves comprise 4,885 hectares of land of which a proportion will be woodland. The Royal Parks noted in their survey response that approximately 20% of their sites were covered by a woodland management plan, i.e. 977 hectares.

The figure of 3,055 hectares has been derived from the City of London estimated woodland figure (minus the three hectares within the City boundary), plus TfL and the Royal Parks 20% known woodland under management plans. This gives a total known owned woodland area including local authorities and other organisations of 6,727 hectares, representing 52% of the total amount of woodland according to the NFI, however with 11 boroughs not able to provide data on hectare owned it is not possible to confirm these figures.

6.3 Levels of woodland management

The mapping exercise, workshops and subsequent survey confirmed initial suspicions about the accuracy of the 'woodlands in management' areas that the FC hold. This issue may be more acute in urban areas:

- Suitability of traditional FC data (felling licences and grant schemes) to accurately identify woodland in London e.g. Inner London Boroughs are exempt from Forestry Act so woodland management may be taking place without FC involvement
- Landowners and managers in urban areas may see urban woodland from a different perspective e.g. as part of a wider recreational park resource.
- Lack of comprehensive pan-London data on woodland ownership and management activities

- FC grants have largely been designed to deliver Rural Development programmes and hence not entirely suited (or appropriate) to urban situations. As a result, management activity may be taking place that hasn't received FC grant support
- Some large greenspace sites in London, containing significant woodland, has received Higher Level Stewardship support but this has not been recognised in the indicators.

Through the maps and spreadsheets annotated as part of this research, more information will be available on ownership and management of sites across London. This data will be processed by the Forestry Commission to update their understanding of woodland in London. However it seems possible that the percentage of management is likely to be inexact as the overall volume of woodland calculated using NFI data is disputed (as already highlighted).

Local authorities noted within their survey responses that there is a discrepancy between FC headline indicator data and their own understanding of what is happening within the sites they are responsible for. In addition, there may be many site woodland management plans (or whole site plans including woodland) that are not FC compliant and do not have an associated grant and will therefore not appear within this indicator figure. Further work would help determine whether these plans meet the UK Forestry Requirements, or the degree they need to be enhanced to meet those standards.

The survey and workshops have generated information on management levels within local authorities and other organisations and highlighted the shortcomings of existing indicators as a way of measuring woodland and woodland management in London.

Workshop attendees suggested additional indicators for measuring management which included:

- DEFRA single data list – SINCS in management
- Higher Level Stewardship
- Green Flag sites
- Community group existence at site
- Management plans without associated grant

It was noted by attendees that designation status was not a reliable indicator of management although SSSI and NNR designation was used in the methodology to assume management of particular sites.

21 out of the 27 boroughs that responded to the survey had some form of management plan for all or some of their woodlands. Eight boroughs had English Woodland Grant Schemes, six of whom had used the FC management plan template. There are consequently many more management plans in existence without associated grants. This calls into doubt the ability of the FC headline management indicator to track those boroughs producing plans but not applying for grants.

Of those with management plans, 15 have recorded a range of management activities taking place within their woodlands. Three boroughs without management plans have recorded management activities taking place including one borough carrying out selective felling and thinning.

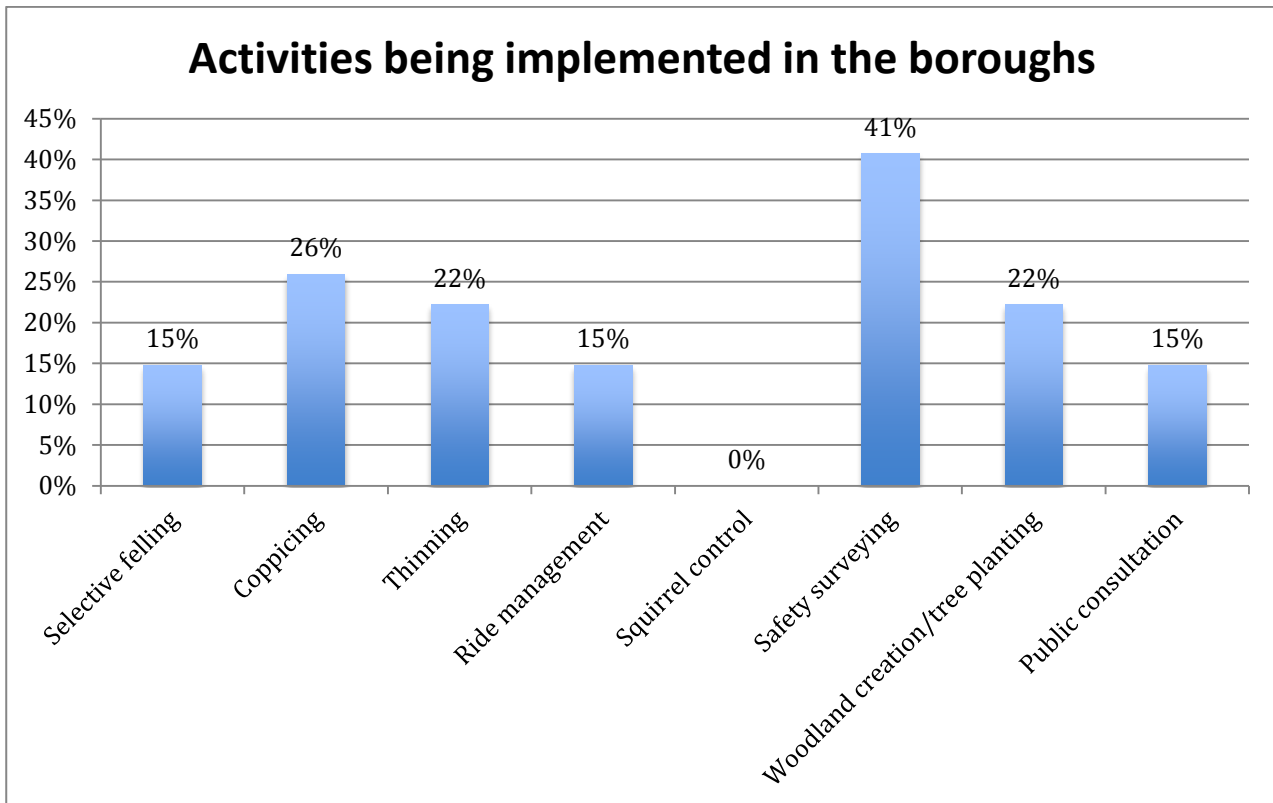


Figure 5 Management activities implemented in boroughs

Broadly speaking survey responses would indicate that those boroughs with either dedicated staffing resources, specified budget or a motivated individual within the team have an impact on level of management activity implemented within boroughs. Of the 15 recording a range of activities seven were implementing four or more. Amongst the top five boroughs by woodland cover two boroughs, Bromley and Croydon consistently rank highly on all aspects of woodland management. These large wooded boroughs have, to date, resourced woodlands with both staffing and budget and have benefitted from Staff with specific woodland management training/experience and associated motivation to manage their woodland.

6.4 Management issues

Woodlands are increasingly vulnerable to a host of threats including pests and diseases and changes in climate. Urban woodlands have added pressures of high levels of public use. 72% of councils, 18 in total, ranked their woodlands as having medium resilience (defined as the capacity of an ecosystem to respond to a disturbance by resisting damage and recovering quickly) although five boroughs noted that there were woodlands that they considered critically threatened. 8%, two respondents, ranked their woodlands

as having low resilience and 19% felt that woodland resilience was a management issue within their borough. The biggest issues for boroughs were budget and staff resources.

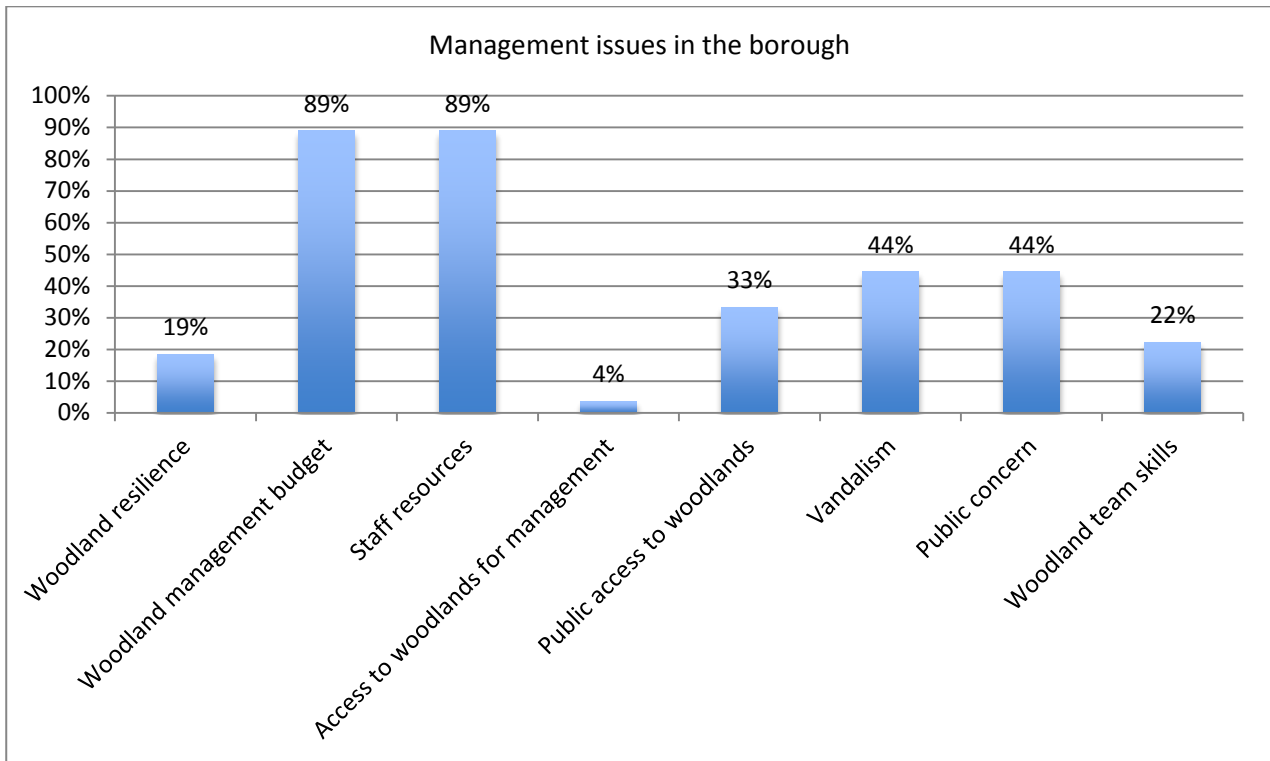


Figure 6 Management issues within London boroughs

Boroughs noted the perceived threat of development as being ever present and that the small fragmented nature of urban woodlands particularly those within the more densely populated boroughs made them more susceptible to misuse, damage and loss. The three non-borough organisations taking part noted staff resources and public concern as their biggest management issues with management access, resilience and budget also mentioned. The City of London Corporation noted their particular concern for ancient woodland sites suffering poor regeneration and disease. The Royal Parks noted that as they are a government body* they are losing their ability to gain grants for woodland work and hence budget will become an issue for them.

* Since this study was concluded, the Royal Parks have become a charity

6.5 Woodland management priorities

Survey responses indicated that health and safety was a high priority for 77% of local authorities. This was reinforced at the workshops, which noted that health and safety was the main management priority.

The provision of public access and biodiversity were also ranked as high priority by the majority of local authorities participating in the survey and/or workshops. ‘Other’ priorities listed by participants included health and wellbeing, air quality and heat mitigation.

The production of woodland products was not seen by local authorities as high priority, even by those currently generating produce and income from their woodlands. Nine surveyed boroughs expressed an aspiration to generate products from their woodlands, however they all ranked production as either low or medium priority. Indeed, some officers felt that any perception of financial return from woodland management activity could be perceived by the public as ‘money grabbing’ or done simply to generate income rather than other benefits.

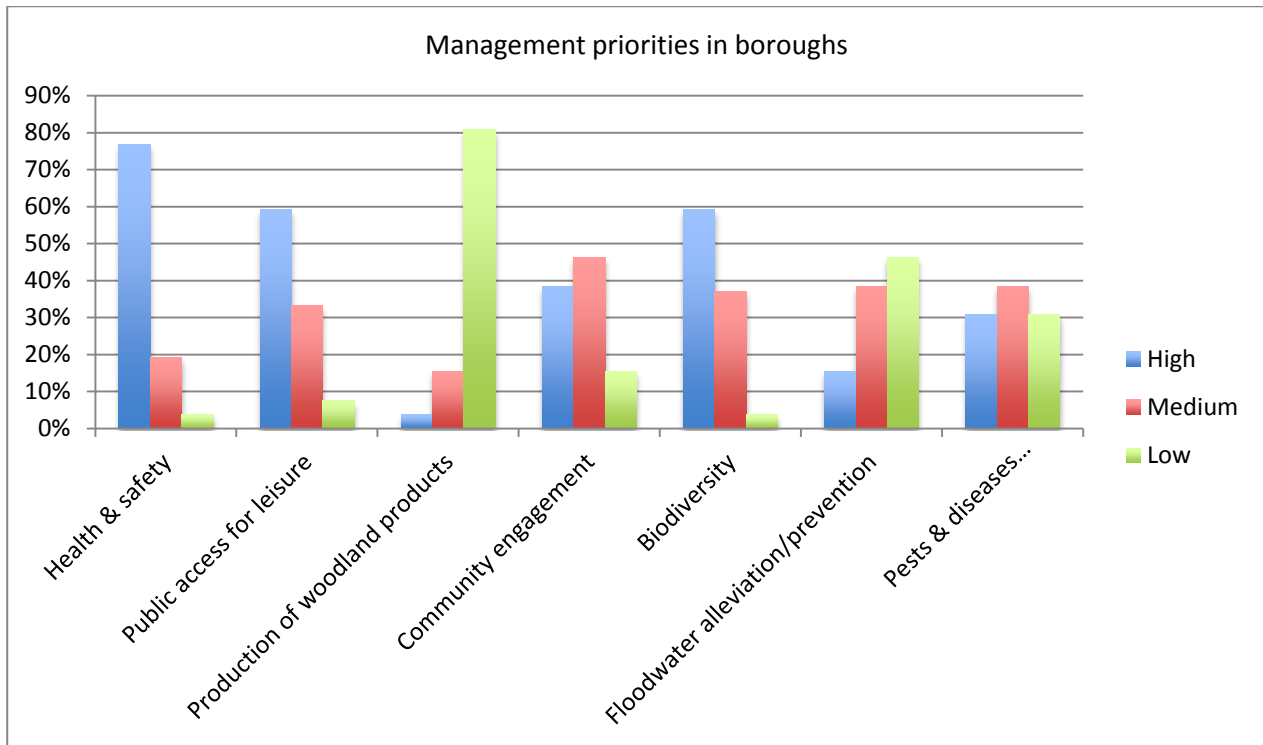


Figure 7 Woodland management priorities within London boroughs

Pest and disease mitigation/prevention was noted as a high or medium priority by 18 of the 27 borough respondents although it is notable given the threats currently posed by disease that eight boroughs ranked it as low priority. This may reflect either lack of resources or knowledge within these boroughs. Amongst non-borough respondents priorities that scored highly included health and safety, community engagement, biodiversity and pest and disease mitigation/prevention, with biodiversity being a high priority across all three organisations. Production of woodland products was high for the City of London Corporation and a medium priority for the Royal Parks.

Workshop group sessions and the survey both indicate that woodland management priorities can be driven by wider borough priorities or by individuals with responsibility for woodland management. For example, woodland with public access and health and safety requirements will be prioritised for management over woodlands without access. Additionally, where a biodiversity team or officer has responsibility for woodland management, biodiversity is often prioritised over other woodland management benefits.

Only 8% of survey participants felt that the resources committed to woodland management in their borough reflected their priorities and 40% said their priorities were not at all reflected in their allocated resources. The main resources lacking were budget and staff time, with skills being an issue for some.

For many workshop attendees, priorities stated reflected budget available for woodland management. This is reflected in the survey responses, however some local authorities included all their priorities regardless of whether or not they are practically able to act on them – therefore aspirational rather than realistic or resource related. One council commented that for particular woodlands, the management priorities were established based on thoughts of the community groups involved in management of the woodlands.

There appears to be no correlation between budget and staff resources and priorities for woodland management. The same is true for woodland size in relation to priorities. Feedback at the workshop and survey comments suggest that priorities (whether theoretical or actually acted on) tend to be council led or led by the specific individuals or teams responsible for woodland management. Several officers referred to ‘target led management’ whereby management priorities are led by compliance and targets and in turn are restricted by budget to those activities. In some boroughs it was stated that additional budget would enable officers to expand the range of priorities for management. For London woodlands, in their urban setting, it was felt that provision of public amenity, access and recreation are seen as a core priority.

There also appeared to be no correlation between the priorities of those with or without woodland strategies and those with or without internal support, apart from the fact that the majority of boroughs ranked health and safety as a priority. All boroughs surveyed noted the increasing financial pressures on their departments. Budget cuts and staff changes within boroughs have led to a decrease in the ability of tree and woodland teams to manage borough woodland resources effectively.

6.6 Support for woodland management within boroughs and other organisations

Support for woodland management can be provided in a range of forms, including provision for woodland management in local policy documents, vocal support from senior management and councillors, and budget and staff resources.

The survey highlighted that less than half of respondents felt that their local governance structure supported woodlands in terms of policy, strategy, planning and implementation. 41% of those surveyed have a tree and woodland strategy (as recommended in the London Plan, Green Infrastructure and Open Environments supplementary planning guidance 2013). These varied in their level of detail and the extent to which woodlands are covered as a separate entity to street trees and/or park spaces. A number of boroughs stated they had tree strategies but these did not include woodlands as areas with separate management needs.

Less than half of those with a strategy (45%) felt that commitment to their strategy was high. Of those boroughs without a strategy, 85% noted medium or low interest in producing a strategy that included woodlands. In some cases, this is due to there being only small amounts of woodland in the boroughs. In others, this is due to a lack of resources to focus on woodlands and/or woodlands not being a priority within the council.

In relation to internal support for developing management plans for council woodlands, 11% thought there was a high level of support, 37% medium and 53% low. This reflects the low uptake in grants on offer from the Forestry Commission – it is not that boroughs are writing plans and undertaking

management activities but not applying for the grants; in some cases, the plans and works are not being done.

Support for woodland management through the allocation of resources is stated as lacking across many boroughs. This is reinforced through survey and workshop feedback. 81% of survey respondents noted that a lack of budget restricted activities and 78% a lack of staff resources. Several officers commented that if officers cannot demonstrate that their position is self-funding, the internal support is not there and woodland roles are at risk of being cut. This highlights the need for different accounting (for GI, not just woodland) to account for the public benefits that they provide but may not be monetised.

There was a call for a high level of advocacy needed across London as a whole and within boroughs. Woodland management is currently seen by many as a cost and potential management benefits (economic, social and environmental) are not considered. Whilst projects like the i-Tree London survey help to raise awareness, their pan London scale means that the case still needs to be made at a borough level.

Several officers commented that woodlands are not a priority for budget within local authorities. Difficulties in providing evidenced value of woodlands combined with overall local authority spending cuts has produced a downward pressure on budgets. The overwhelming majority surveyed noted budget as a management issue.

The workshops highlighted the issue that woodlands require long-term thinking and investment in order to thrive in the future. This does not necessarily sit easily with the short-term political cycle that influences priorities for some councils and potentially across London. Some officers requested that help is provided to increase the level of understanding and awareness amongst officers and councillors about the benefits of woodlands and the need for long-term resources to be committed to their management.

6.7 Community involvement and engagement

Community involvement and engagement can play an important role in helping to deliver management objectives for borough woodlands. Community woodland groups can offer additional resources for woodland management activities; engaging communities positively on the benefits of woodland management can reduce the conflicts and challenges associated with high levels of use and misuse of urban woodland sites. However, the scope of activities able to be undertaken by community woodland groups can be limited and to be effective boroughs have had to invest time and resources into groups.

18 boroughs (67%) responding to the survey had community woodland groups active within their borough. 15 of these noted that their community groups were associated with specific woodland sites within the borough. Only two boroughs said that they were not. Workshop discussions noted that community woodland groups can often begin in response to a perceived threat to a local site or from a position of local interest hence the strong links with specific sites. The implication is that although specific sites may be covered by active groups this extra resource may not be a flexible labour resource for borough wide activity. Types of engagement varied between sites and boroughs but often echoed the structure outlined in the diagram below with multiple examples of early passive engagement in many boroughs but fewer examples of fully empowered groups able to take responsibility for others and lead decisions.

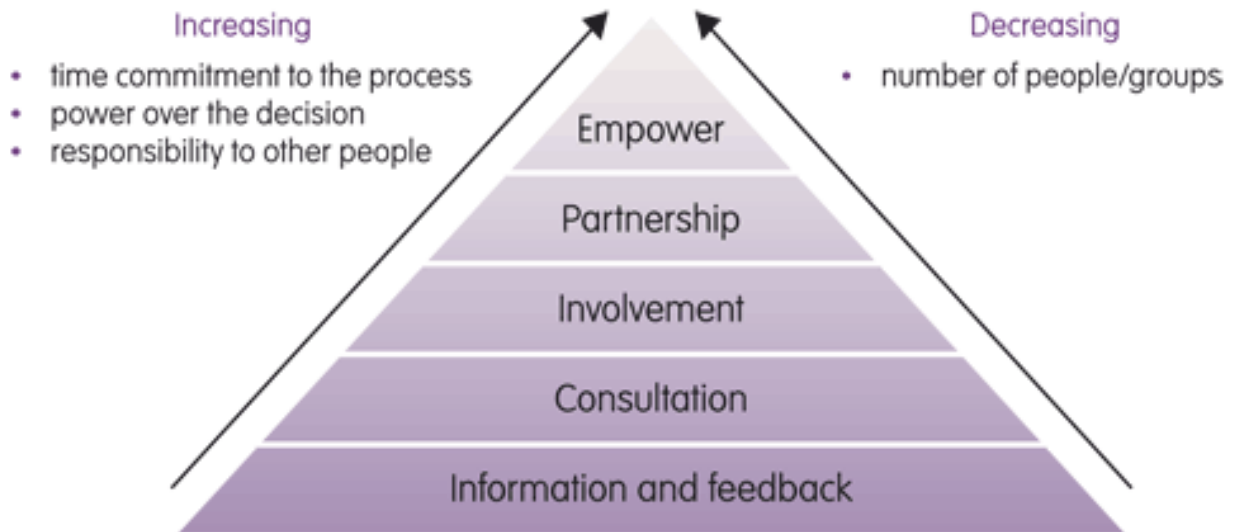


Figure 8 Pyramid of engagement. Source: Forestry Commission

Community woodland groups tend to focus on lighter woodland management using hand tools, e.g. coppicing and thinning work, ride clearance, rubbish and debris removal and notification of damage or hazards at sites. Larger scale work and significant management tasks were generally considered beyond the scope of the community groups.

Workshop attendees felt that community group involvement in woodland management could be beneficial overall, although workshop attendees and survey respondents noted that there was a time and resource cost associated with that involvement. There was a degree of negativity expressed towards community involvement by those attending workshops due to the often onerous demands placed on officers in order to ensure that community involvement was effective and could be sustained in the long term.

Benefits to the Borough of community involvement mentioned were:

- the ability to get work carried out, especially on small sites where use of contractors would be uneconomical
- improving the engagement of wider community in woodland management
- accessing additional funding for site work
- can be used to effectively report on a range of woodland information from misuse to biodiversity surveys
- in some cases, additional knowledge and experience either local or woodland specific
- access to local wood product markets
- great local PR
- local people often apply the political pressure & lobbying that creates a Borough response – to woodland issues

Not perhaps highlighted in discussions were the benefits to the community of engagement, for example community health and cohesion.

However, there were also challenges mentioned by officers in achieving this range of benefits:

- difficult and time consuming to manage, high levels of supervision needed to ensure work is effective and safe
- can be dominated by individuals with single issues which can be at odds with management objectives of boroughs
- can cause damage if unsupervised due to lack of necessary skills
- health and safety concern and liability issues
- can have a short term focus and limited understanding and appreciation of woodland management practices

As a result of this some boroughs had high levels of involvement with groups. Four boroughs had an on site supervisory role whilst half of those boroughs with groups had active involvement with them.

The majority of boroughs thought that there were opportunities for either more groups to be established within their borough or for existing groups to do more. There are however, a number of barriers preventing this from happening including lack of sufficient borough staff to supervise and coordinate activities, lack of interest from the existing community, and a lack of skills.

Enabling the wider community to have an understanding and appreciation of woodlands is beneficial. It can lead to greater use and respect for sites and those working within them.

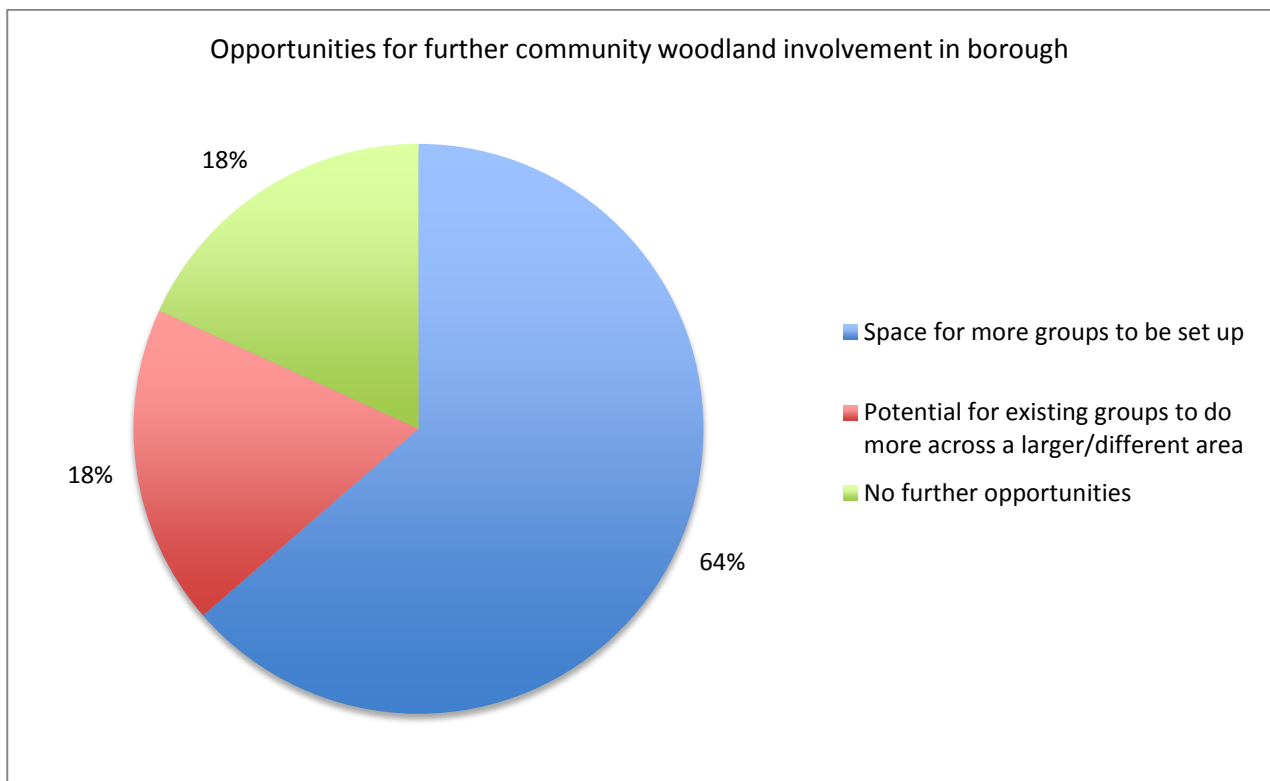


Figure 9 Opportunities for community woodland involvement

Workshop attendees in particular noted a desire to improve the profile of woodlands and many funding and support ideas were geared towards this. However, when surveyed only 15% of boroughs said that they did a lot of engagement. Engagement was broken down into six methods ranging from visitor signage to consultation events. Only three of the 21 boroughs who engaged did so using all six methods.

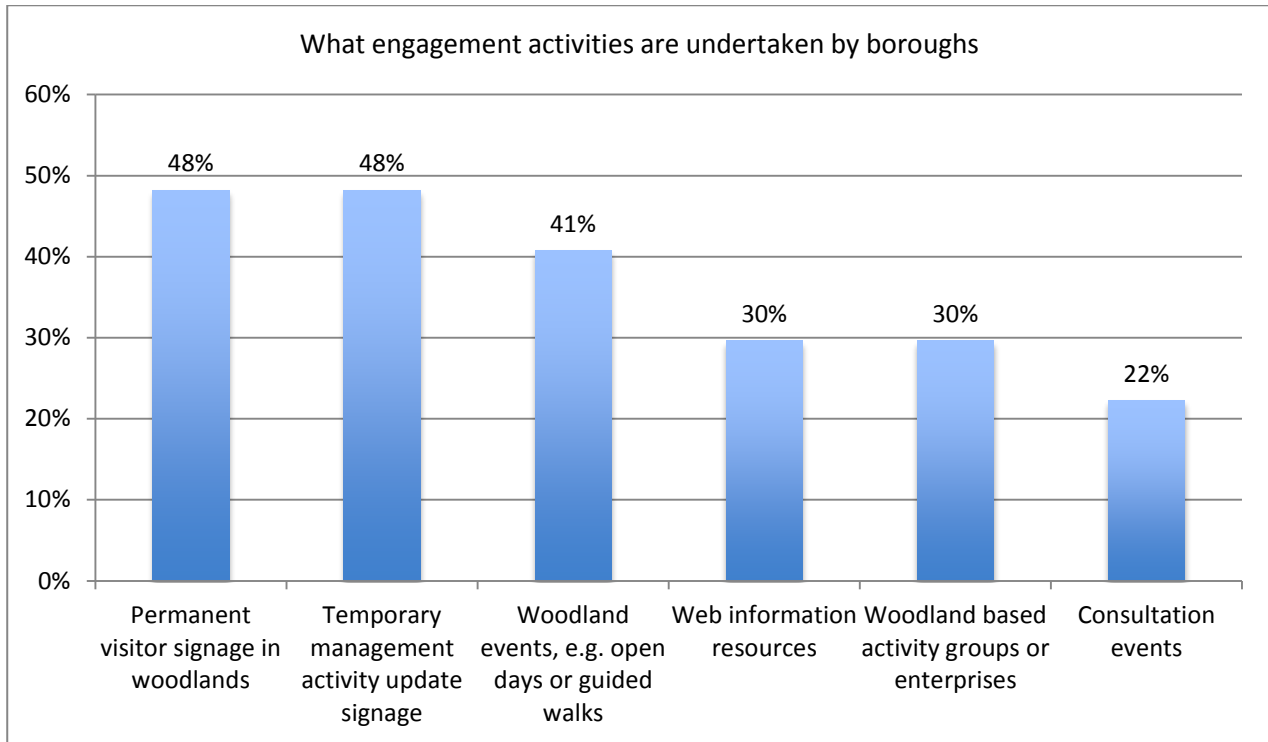


Figure 10 Engagement activities undertaken by boroughs

Five of the eight boroughs who employed four or more engagement methods recorded a specific budget allocation for woodlands. There was also a link between amount of woodland cover and variety of engagement methods with three of the top five boroughs by woodland cover using more than four types of engagement. These three boroughs also had specific woodland budget allocation. Larger amounts of woodland cover could give more scope for a wider variety of engagement whilst a specific budget allocation for woodlands provides a potential resource to fund engagement.

It was notable that when asked in the survey, only two boroughs out of 26 that answered monitored the level of public usage of their woodlands. This could be a missed opportunity to influence policy makers in understanding the value of woodlands if there was evidence of their use by constituents. Non-borough organisations varied greatly in their approach to engagement. The City of London Corporation employed all six engagement methods at their sites.

6.8 Resources and challenges

Boroughs were asked about woodland management staffing and budgets within their organisations as well as additional external resources they accessed. According to the survey responses, levels of budget allocated to woodland management varied greatly between boroughs ranging from £3,000 to £180,000

per year. At the higher end these figures often included budgets across all parks, woodlands and open spaces. There was no correlation between amount of woodland cover and budgets. The top five London boroughs in terms of woodland cover recorded total budget of £44,000 whilst the next five in order of woodland cover reported a total budget of £178,000. Budgets between boroughs varied in terms of what they included and direct comparisons between boroughs are not possible.

Boroughs were also asked about staffing levels which also varied greatly between zero full time equivalent (FTE) employees up to 20 staff members. Again, there was no correlation between staffing levels and amount of woodland cover, with the largest five boroughs by cover accounting for 7.3 FTE staff between them whilst the next five recorded 28.6FTE staff.

Boroughs accessed additional resources from a range of external organisations including 77% using contractors and 69% using volunteer and community groups. Use of external organisations to help augment internal resources was widespread amongst boroughs. Workshop feedback noted that using volunteers and community groups as additional resources could present significant additional challenges in terms of extra training and supervision requirements. 50% of respondents with community groups in their boroughs had active involvement with them whilst 22% had an on-site supervisory role. It was felt that whilst there was value in community and volunteer group involvement it required investment from borough staff to make it work.

Boroughs noted a lack of dedicated woodland staff within their teams. Job titles collected as part of the survey show that only four of the 27 respondents have woodland or forest within their job title. Job titles are dominated by arboriculture and conservation which may indicate the broad scope of responsibility within the borough teams and lack of woodland specialism.

Feedback from both the survey and the workshops indicate that the majority of boroughs and other woodland owning organisations feel themselves under-resourced both in terms of dedicated staff and budget for woodland management activities. When asked whether or not the resources committed to woodland management within their boroughs reflected the requirements of either the management plan or objectives for sustainable woodland management only 7% (two respondents) answered yes.



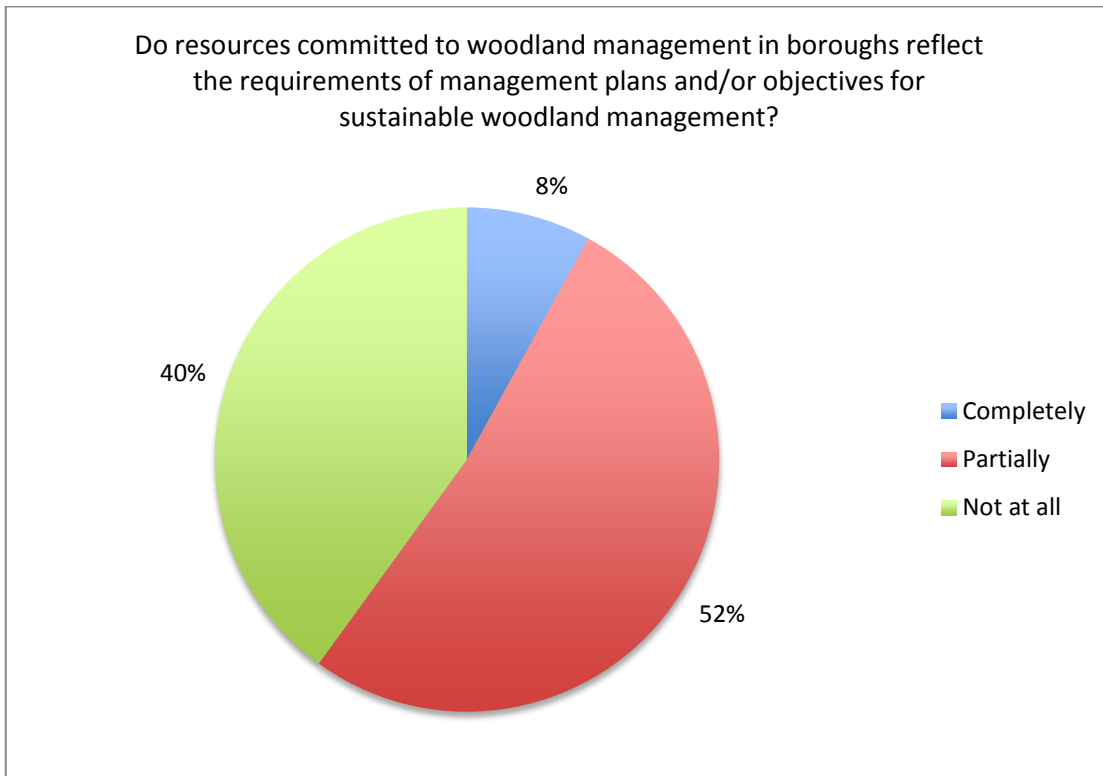


Figure 11 Resources committed to woodland management

Boroughs felt that the limited support for woodland management activities was due to lack of support internally within their organisations from senior council figures. It was felt that in many cases this was because there is limited understanding of its value, leading to a lack of sufficient resourcing. Woodlands and trees are viewed by policy makers as a cost rather than an asset. Borough priorities focus on health and safety and risk mitigation leaving fewer resources for proactive woodland management.

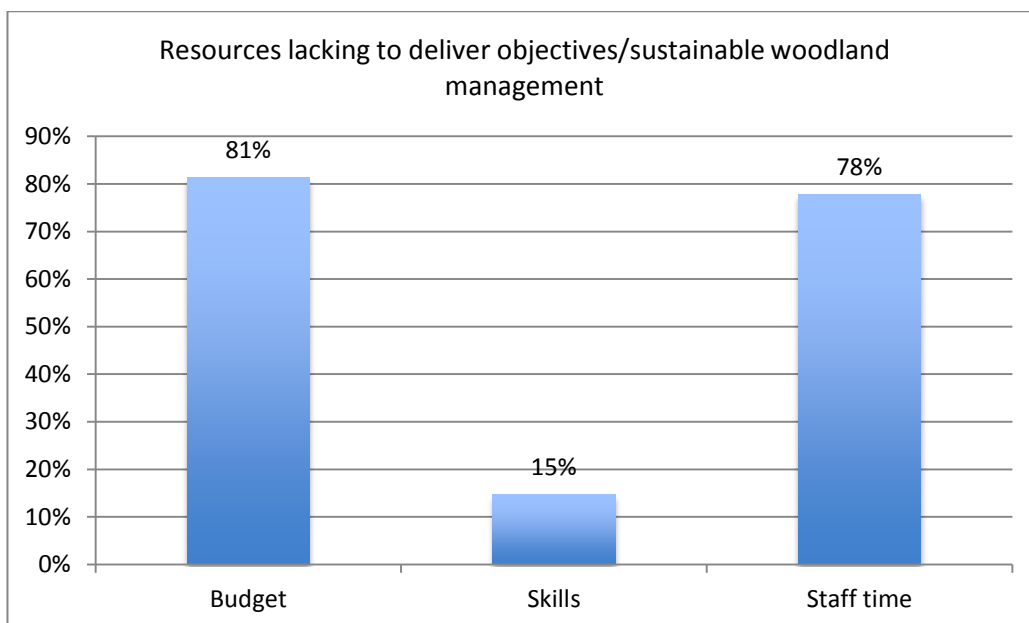


Figure 12 Resources lacking for management

Borough tree and woodland officers find it challenging to raise the profile of woodlands to policy makers but feel it is vital that the benefits are recognised and resourced accordingly. Research like i-Tree is viewed as helpful to frame arguments for the value of the overall tree and woodland resource.

6.9 Skills and training requirements

Feedback from both the workshops and survey indicate that there is a skills gap within boroughs, specifically with regard to specialist woodland and forestry skills. 26% of respondents to the survey listed woodland team skills as one of the management issues within their borough. 66% didn't know if their management plans met UKFS requirements whilst only four of the 27 respondents had the word woodland or forest within their job title.

Workshop attendees noted that the majority of staff managing woodlands in London had an arboricultural background and had received little or no formal woodland or forestry training. As a result of this many felt ill equipped to address the strategic needs of woodland management, nor felt able to take advantage of commercial forestry opportunities from their woodlands. This may contribute to the lack of perceived opportunity for woodland products from within boroughs.

Workshop attendees and survey respondents were asked which areas of training they would benefit from receiving. There were high levels of interest in more strategic forestry and woodland skills such as management planning, writing plans and grant applications training. Writing plans and preparing grant applications was also noted as a requirement by the other non-borough organisations.



Figure 13 Training requirements for woodland teams

Particular mention was made in workshops of the following additional areas of training to up-skill those responsible for woodland management in London:

- Management plans, grant applications and the new FC template
- Pest and disease management and awareness
- Silviculture and the UK Forestry Standard
- Commercial woodland management and wood supply chain economics, products and value chains
- The place of woodlands within green infrastructure
- Community engagement

The survey and workshop sessions also examined how best to deliver additional training to this audience. The survey indicated a preference for face-to-face rather than distance learning. Workshop feedback confirmed this, with officers noting the value of knowledge sharing with others.

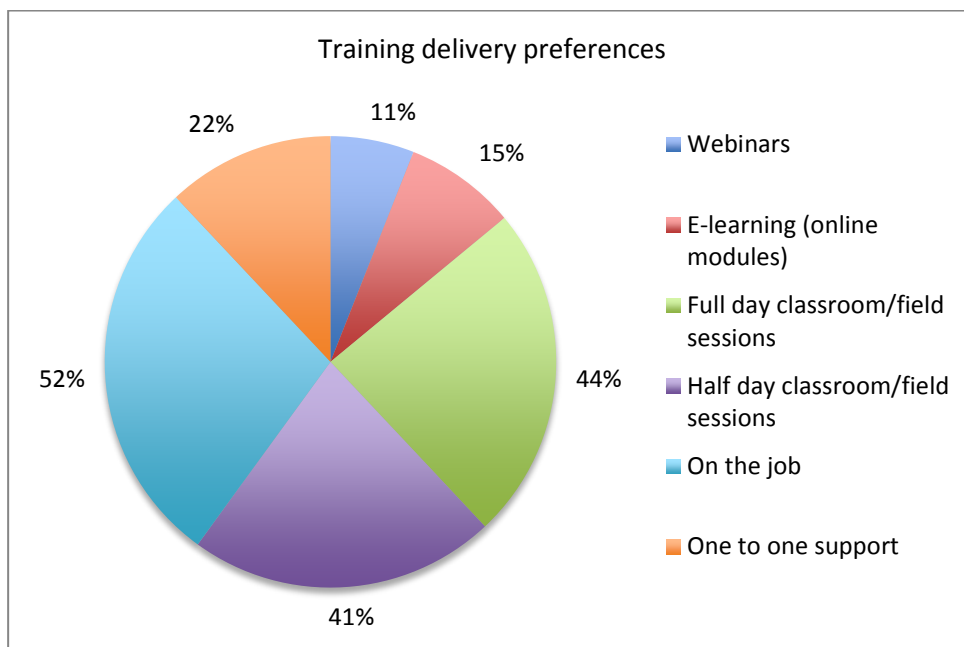


Figure 14 Training delivery preferences

6.10 Funding barriers, ideas and opportunities

Lack of funding for woodland management was cited as one of the issues preventing greater management taking place within woodlands.

External funding sources for woodland management activities exist and could provide additional resources for boroughs. The survey and workshops requested feedback on levels of funding being accessed at the moment.

34% of those surveyed have all or some of their woodland sites under grant schemes or with felling licences. 63% of those who accessed grant funding have accessed English Woodland Grant Scheme funding for some or all of their woodland sites, 45% have accessed Natural England environmental

stewardship funding and 27% have accessed Re:Leaf (Greater London Authority) funding. 18% had accessed other funds including community grant schemes and Tree Council grants.

6.10.1 Barriers to funding

The survey sought information on levels of Forestry Commission grant uptake. Grant uptake in London is not widespread

Of the 34% with some level of grant only one respondent (3%) had all woodland sites within a FC grant scheme, with eight boroughs having some sites within grant schemes. Of the nine with some grant covering their woodlands sites, seven have claimed the grant and eight have implemented the work associated with the grant.

39% of respondents considered applying for the grant but didn't. A summary of workshop feedback illustrates the main reasons for this:

- difficulty with the application process and the new grant templates as well as the suitability of the new grant schemes for urban woodlands.
- need for a specific grant tailored to meet the needs of urban woodlands.
- Four of the top five boroughs (80%) by woodland cover have accessed some form of grant funding; this drops to six of the top 10 (60%) and only 10 of the top 20 (50%). There may therefore be some correlation between woodland cover and grant uptake.
- The relatively low level of grant uptake within boroughs could be due to a number of factors. Insufficient skills or capacity may impact upon borough ability to submit grant applications or management plan writing.

6.10.2 Funding ideas and opportunities

Workshop attendees were asked for general and specific funding ideas that could be developed further. Opportunities were sought for cross borough working and collaboration in order to create landscape scale ideas that could cover significant areas of London and achieve economies of scale in delivery. Some interesting ideas were put forward by boroughs although cross boundary opportunities seemed limited.

Ideas for further funding are as follows:

- Woodland access and infrastructure improvement and management
- More dedicated staff for woodlands
- Long-term monitoring of impacts of management
- Advocacy for woodlands in London, campaigns and promotion to promote value of woodlands to policy makers
- Create links/content between woodland sites and the development of the London curriculum
- Community forester(s) for London
- Veteran tree surveys
- Ancient woodlands and heritage of London woodlands

- Health related opportunities, e.g. green gym, walking, meditation and relaxation, air quality
- Humans and woodlands, human interactions and relationships with woodlands, e.g. charcoal makers, bodgers, coppice workers.

A number of pan-London opportunities came out of the workshop sessions. They can be summarised as follows:

- Canopy study for London
- London Wood Fair
- Heritage wood culture and London's woodland heritage project including site maps, walks and interpretive trails
- Borough arboretums – identifying and tagging specimen trees within boroughs and creating trails linking trees
- Baseline ecological survey to track woodland condition over time and quantify impacts of management interventions
- Woodland advocacy project, a voice for all of London's woodlands, promotion of woodlands at policy level.



7 Conclusions

This report represents one of the outputs from this piece of work. Detailed analysis of woodland coverage and ownership within London, assimilating the spreadsheet and mapping feedback, with the existing GiGL datasets, will provide more detailed information and sits outside the scope of this reporting brief. This work is still to be concluded.

This study offers a new evidence base of woodland ownership and management practices for London's woodlands. The unprecedented response levels and input from local authorities in particular have ensured that this work is uniquely representative and grounded. The work moves forward efforts to quantify woodland area, identify patterns of ownership more accurately, and begin to effectively capture management practices amongst woodland owners. This is a vital piece of evidence to ensure the continued stewardship and protection of London's woodlands.

The evidence supports the following findings:

7.1 Data

This study has increased our knowledge of the extent, ownership and management of London's woodlands to inform future thinking, but there is currently no single, complete, reliable and accurate source of data for woodland cover in London.

GIS analysis and feedback suggests the NFI data is an overestimate of woodland area, - for example trees in a parkland landscape or in gardens. Given parks and gardens are normally ineligible for FC grants and often do not require a felling licence, the FC indicator underestimates woodland activity.

This study has identified more detailed ownership and management information for 46% of the total NFI estimate, and demonstrated the knowledge that Borough staff possess. However, it still leaves 54% unaccounted for, as either non woodland, unknown borough woodland or woodland owned by other organisations. This highlights the need for alternative approaches and likely investment of resources to establish a more thorough set of intelligence about London's woodlands.

Whilst recognizing the limitations of NFI, it will help improve the woodland information that GiGL possesses.

7.2 Definition

The study has highlighted differences in interpretation and attitude towards woodland definition. The NFI definition - sites over 0.5ha under stands of trees or with the potential to achieve 20% canopy cover – includes sites that would not be classified as woodlands by those responsible for their ongoing management. Examples include cemeteries, parks, playing fields surrounded by trees, and golf courses.

The definition of woodland has significant ramifications:

- In what circumstances is UK Forestry Standard relevant?

- When is a woodland management plan appropriate?
- When is woodland grant funding appropriate?
- How can these sites be effectively managed
- How can the management of sites such as these be supported

This would benefit from further investigation to establish some common principles that are understood and applied to urban woodlands across London/England.

7.3 Ownership

This project has increased our understanding of woodland ownership patterns in London, but as already mentioned there are still significant gaps. It shows that despite general perceptions, the majority of woodland (and non-woodland trees) are not in public ownership and largely unknown. This is perhaps unsurprising given public realm woodland is generally high profile, publicly accessible and thus well known, whereas private woodlands/trees will have tens of thousands (or more?) of owners and often not be accessible.

7.4 Current management

There is significantly more managed woodland than FC indicators would suggest but is still relatively low compared with rural areas. Further analysis is needed to calculate the hectares of woodland that could be deemed managed. The study drew out other factors that help determine whether management is taking place e.g. Green Flag Award, though this does not necessarily mean they fulfilled UKFS requirements. An approach needs to be developed that can monitor woodland management planning and implementation that takes into account unregulated or funded activity.

The majority of boroughs do not have FC compliant management plans, nor had applied for grants. 21 boroughs had management plans in place although only 6 of these were FC compliant and a further two had FC grants in place. 3 boroughs were carrying out woodland management with no current plans in place.

Some woodlands within London are thought by those responsible for them to be critically threatened.

Five boroughs plus the City of London Corporation considered some of their sites to be critically threatened with ancient woodlands being particularly vulnerable. Threats to woodlands included pests and diseases, public misuse, lack of management and in a few cases a perceived threat from development.

The need to manage statutory functions such as TPOs and planning that affects trees means woodland management is a lower priority for Boroughs. Woodland priorities within boroughs can be non-strategic, misplaced and can be led by individuals or groups, e.g. community woodland groups. Priorities are often compliance driven (e.g. Health & Safety, public access obligation) rather than developed strategically.

Many woodland sites within London are not delivering the full range of ecosystem benefits. Woodland management priorities are dominated by health and safety, public access for leisure and biodiversity all of

which are important, however there are other benefits that are currently not being delivered by London's woodlands. These include woodland products, which could help deliver additional income from management and floodwater attenuation and alleviation, which could provide essential additional protection in the face of increased flooding events.

7.5 Opportunities and barriers to woodland management

Skills – Many staff currently managing woodlands have an arboricultural background and lack silvicultural skills. 66% of those interviewed did not know if their woodland plans were UK Forestry Standard compliant and forestry skills. Management planning and silviculture were noted as training needs.

Resources – This was a regular issue raised by Boroughs and other woodland owning organisations. There is a wide variability of allocated woodland resources between boroughs and other organisations, however the majority of organisations mentioned staffing and budget as issues. Examples of good practice management with limited resources do exist, e.g. Croydon Council, and these provide evidence of what can be achieved as well as showing how new approaches can reap benefits. However, they are limited and overall pressures on departments are significant, with management activities suffering as a result. Woodland creation initiatives have been developed across London and continue to be so, however without long-term support for the on-going management of London's woodlands the success of some planting initiatives may be at risk. There was strong support for training to enable easier access to funding, though traditional support mechanisms are not fully suited to urban woodlands.

Alternative woodland management approaches - Opportunities exist for alternative management models, given restricted resources, which should be explored further. Opportunities for more cross-border collaboration between boroughs, and for community or volunteer management may provide alternative management options. These alternatives would need to be fully supported both within the boroughs and organisations involved but also by those responsible for green spaces across London. Support would need to be tangible and practical.

7.6 Community woodland management & advocacy

The study highlighted scope for community engagement and recognition of the benefits this could generate. Where communities are engaged, it has often originated from an initial perceived threat that has united local people. Whilst professional input and a contractor workforce would be required for silvicultural work, communities could deliver some or all the management needed on many local small scale woodlands although recognition is needed for the additional professional resources required to manage community involvement and activities.

The study highlighted significant concerns about engaging local communities but there are good examples where it has been effective. Sharing good practice and examples would help alleviate some of the fears.

The initial peak resource demands of engaging communities, setting up and upskilling 'Friends of' groups require investment and support. The provision of specific support such as a community forester with investment funds could overcome this.

Organisations surveyed noted the need for greater advocacy for London's woodlands. Opportunities exist for more proactive engagement with communities, to improve understanding, support and care for local woodlands. Key to this building understanding about the benefits of management and that cutting trees down is a good thing when done sustainably. Only four of the 27 respondents said they engaged a lot with their local communities, whilst only two respondents monitored public use of woodlands. The ability to proactively engage with local communities appears to correlate to budget allocation and woodland cover. Greater levels of engagement could help alleviate public misuse of woodland sites as well as encouraging positive involvement.

8 Recommendations and next steps

8.1 Advocacy- the benefits of urban woodland management

In order to create a step change in woodland management, there needs to be a common understanding and support for it, so people are not fearful of tree felling and recognise that sustainable management increases social, environmental and economic benefits. There is a broad programme of such advocacy taking place locally and at national level, but developing a suite of London / urban focussed advocacy materials would aid future activity. Case studies demonstrating good examples of sustainable woodland management should continue to be developed.

8.2 Enhanced evidence base and monitoring

This study has developed an improved knowledge but a future approach needs to be developed that can measure and monitor:

- Where woodlands are and who owns them
- Where UKFS compliant strategies and plans are in place, and implementation of the plan on the ground
- Recognising the contextual difference in urban woodlands e.g. that their planning and management may be integrated into wider greenspace plans

This study has raised the issue of woodland definition and implications for UKFS, regulation, planning and support. Broad principles that provide a common understanding of when woodland related regulations/practice are appropriate needs to be developed, including a review of the appropriateness of existing woodland practice/supporting documents against urban needs.

To maintain a strategic overview of progress, an approach needs to be developed that can collate woodland evidence consistently and efficiently.

The findings regarding woodland definition and accuracy of current management indicators should be shared nationally to inform wider inventory and indicator programmes. Woodland definitions across a

range of sites using real examples should be reviewed and guidance issued to those responsible for management as well as informing data collection methodologies such as NFI. This work could also incorporate some of the other management indicators identified in this report.

8.3 Building capacity to manage more woodland and increase the understanding of the value of woodlands and wood.

- A training package on management plans, silviculture and access to funding to upskill staff and community groups
- Investment funding to overcome the initial cost of getting a woodland into management and to develop community engagement.
- Ongoing, urban relevant funding support in recognition of the wide benefits woodlands provide
- Development of a support framework for managers and community groups e.g. Community forester(s), urban woodland advisory service
- Increasing community involvement in woodland management – by engaging, upskilling and supporting them. This should include support for the site owners/managers.
- Development of a woodland enterprise centre – featuring products, skills and training opportunities, uses of wood in construction, links to Grown in Britain and public education.

9 Acknowledgements

We would like to thank everyone who has supported the study and production of this report.

Due to the contribution and collaboration of numerous organisations, Boroughs and individuals this study has generated a valuable evidence base founded on the majority of London woodland interests – and this collaboration is needed to take forward the recommendations and actions in this report.

Amy Hammond & Jude Hassall, Lantern – Lantern (UK) Ltd
Craig Harrison – Forestry Commission England



10 Appendices

Appendix 1 - Project partners

The project was delivered with the support and collaboration of multiple partner organisations, detailed below.

Forestry Commission (FC) – are the government forestry experts. As well as being the largest owner of land in GB (Forest Enterprise) and Forest Research (an agency), Forest Services aim to protect, improve and expand the nation’s forests and woodlands, increasing their value to society and the environment. The FC provided project funding, strategic direction and baseline data as well data analysis.

<http://www.forestry.gov.uk/london-aboutus>

Lantern – an environmental consultancy working in collaboration with others to make a positive difference to communities, business and the environment. We provide expertise on all aspects of the wood chain. Lantern led the design and delivery of the project.

<http://www.lantern.uk.com/>

Greater London Authority (GLA) - a strategic regional authority which shares local government powers with the 32 London boroughs but provide a single representative body for London. The GLA is responsible for strategic land use planning in London. The GLA provided project funding and a strategic/policy overview.

<https://www.london.gov.uk/mayor-assembly/gla>

Greenspace Information for Greater London (GiGL) – London’s environmental records centre, collecting, managing and making available detailed information on London’s wild spaces. GiGL provided GIS and data mapping support and advice.

<http://www.gigl.org.uk/>

London Tree Officers Association (LTOA) – represents the professional and technical voice of those responsible for managing and protecting London’s trees and woodlands. The association is made up of members from the London boroughs. The LTOA supported and promoted participation in the project workshops and survey.

<http://www.ltoa.org.uk/>

Transport for London, City of London Corporation, and Royal Parks – representing other organisations within London who own woodland. These organisations provided additional information on woodland area and management practices across their land holdings.

www.tfl.gov.uk www.cityoflondon.gov.uk www.royalparks.org.uk

Appendix 2 – Workshop Attendees

Attendee list for Workshop 1 – Friday 31st January

Name	Organisation
Rupert Bentley Walls	London Borough of Hackney
Jon Best	Southwark Council
Caroline Birchall	Camden Council
Howard Booth	Transport for London
Timothy Crane	Ealing Council
Jane Crowther	London Borough of Richmond upon Thames
Richard Edwards	London Borough of Croydon
Tom Fradd	London Borough of Havering
Nick Harrison	Harrow Council
Andrew Hayashi	London Borough of Haringey Council
Ian Holt	London Borough of Haringey Council
Simon Levy	London Borough of Croydon
Dave Lofthouse	London Borough of Merton
Jonathan Meares	City of London
Craig Ruddick	London Borough of Richmond upon Thames
Benjamin Sanderson	London Borough of Havering
Daniel Sitch	London Borough of Merton
Joseph Woodcock	Royal Borough of Greenwich

Attendee list for Workshop 2 – Friday 20th March

Name	Organisation
Geoff Clack	London Borough of Islington
Lee Curtis	Lambeth Borough Council
David Horgan	Carillion (Hounslow Parks & OS)
Chris Langdown	Enfield Council
Patrick Langley	Wandsworth Council
Gary Rimmer	LB Brent
Mark Taylor	London Borough Of Bexley

Appendix 3 - National policy context**Government Forestry and Woodlands Policy Statement: Incorporating the Government’s Response to the Independent Panel on Forestry’s Final Report**

In January 2013 the Government produced their response to the report from the Independent Panel on Forestry. The Government accepted many of the panel’s recommendations and committed to supporting the protection, improvement and expansion of the woodland resource making specific reference to “the importance of preserving and maximising the social and environmental benefits provided by trees and woodlands, particularly in and around our towns and cities”.

<https://www.gov.uk/government/publications/government-forestry-policy-statement>

The UK Forestry Standard (UKFS)

The UK Forestry Standard (UKFS) is the bedrock for sustainable forest management in the UK. By meeting the requirements of the UKFS, woodland owners and managers can demonstrate that their forestry plans and activities are both legal and sustainable.

<http://www.forestry.gov.uk/ukfs>

Woodland management plans

The UK Forestry Standard (UKFS) guidelines for general forestry practice advocate the development of woodland management plans ‘to demonstrate that all relevant aspects of sustainable forest management have been considered and to provide a basis for implementation and monitoring’.

<http://www.forestry.gov.uk/forestry/INFD-9BMJWE>

Felling licences

There is a legal requirement to get approval for the felling of trees (except in limited circumstances). All felling applications go on a public register and can be commented on by anyone (in much the same way as planning applications).

<http://www.forestry.gov.uk/england-fellinglicences>

Forestry Commission – Pests and diseases

Provides advice and support on a wide range of pests and diseases threatening UK woodlands. Includes information on Chalara Fraxinea (ash dieback), phytophthora ramorum and oak processionary moth (opm).

<http://www.forestry.gov.uk/pestsanddiseases>

European Habitats Directive (amended 2007)

The EU Habitats Directive aims to promote the maintenance of biodiversity. The Forestry Commission has created guidance for woodland owners on safeguarding European protected species including 17 species of bat, the dormouse and great crested newts.

<http://www.forestry.gov.uk/england-protectedspecies>

The Natural Choice: securing the value of nature – Defra, 2011. White Paper

Woodlands are highlighted as providing a range of ecosystem services. In particular, point 2.54 ‘protecting and improving our woodland and forests’ states the desire for a much larger proportion of existing woodlands to be brought into active management.

<https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

UK Renewable Energy Strategy

This commits the UK to contribute to the overall European renewable energy target and to generate 15% of our energy needs from renewable sources by 2020. Wood will play a big part in achieving this target.

<https://www.gov.uk/government/publications/the-uk-renewable-energy-strategy>

UK Bioenergy Strategy

This strategy outlines the UK’s approach to securing the benefits of using bioenergy. The strategy indicates that sustainably sourced biomass, which includes forestry products, could contribute around 8-11% to the UK’s primary energy demand by 2020.

<https://www.gov.uk/government/publications/uk-bioenergy-strategy>

Renewable Heat Incentive (RHI)

The government has put in place a range of incentives to encourage greater use of renewables. Woodfuel (or biomass) boilers qualify for the RHI. Payments are made directly to boiler owners based on the amount of heat produced (metered and non-domestic installations), or estimated heat demand (non-metered domestic installations) on a pence/kWh basis. If boroughs are considering selling timber to

woodchip producers, the timber will need to comply with new national sustainability criteria for woodfuel.⁷

<https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi>

Woodfuel strategy and implementation plan for England

The Forestry Commission's Woodfuel Strategy for England sets out the clear role that England's woodlands can play in helping combat climate change. The main aim of the strategy is to bring an additional two million tonnes of wood into the woodfuel market each year by 2020. This, it is estimated, would save 400,000 tonnes of carbon a year, equivalent to using 3.6 million barrels of crude oil. The follow up Woodfuel Implementation Plan outlines how the strategy will be achieved.

[http://www.forestry.gov.uk/pdf/fce-woodfuel-strategy.pdf/\\$FILE/fce-woodfuel-strategy.pdf](http://www.forestry.gov.uk/pdf/fce-woodfuel-strategy.pdf/$FILE/fce-woodfuel-strategy.pdf)

[http://www.forestry.gov.uk/pdf/FCE_WIP_Web.pdf/\\$FILE/FCE_WIP_Web.pdf](http://www.forestry.gov.uk/pdf/FCE_WIP_Web.pdf/$FILE/FCE_WIP_Web.pdf)

London policy context

The London Plan – spatial development strategy for Greater London, July 2011

In particular, policy 7.21 Trees and Woodlands states that woodlands should be protected, maintained and enhanced. Policy 2.18 Green Infrastructure: the network of open and green spaces supports the increased provision of green infrastructure.

<https://www.london.gov.uk/priorities/planning/publications/the-london-plan>

Green Infrastructure and Open Environments: Preparing Borough Tree & Woodland Strategies, Supplementary Planning Guidance (SPG), February 2013

One of four SPGs that covers issues of green infrastructure and the open environment in the London Plan. This SPG promotes and provides guidance on how to write a borough tree and woodland strategy. Strategies will include valuations of trees and woodlands as an asset, the benefits they provide, their management needs and opportunities for cross-boundary working and planning.

<http://www.london.gov.uk/sites/default/files/SPG%20Tree%20and%20Woodland%20Strategies%20Feb-2013.pdf>

Connecting Londoners with Trees & Woodlands: A tree and woodland framework for London (Mayor of London)

Covers a variety of woodland issues including objective D4 – support the use of local tree and woodland products as part of sustainable management of the resource.

<http://www.forestry.gov.uk/ltwf>

Mayor's Biodiversity Strategy (Connecting London's Nature) (2002)

Highlights the benefits of protecting and managing green spaces including woodlands.

All London Green Grid (ALGG) (GLA)

⁷ Sustainability requirements for supplying and using woodfuel. Defra (2014)
<https://www.gov.uk/sustainability-requirements-for-supplying-and-using-woodfuel>

This policy framework promotes the design and delivery of green infrastructure across London and includes 11 area frameworks which expand on the strategic opportunities set out in the ALGG supplementary planning guidance.

<http://legacy.london.gov.uk/mayor/strategies/biodiversity/index.jsp>

Natural Capital – Investing in a Green Infrastructure for a Future London (Green Infrastructure task force) Dec 2015

This report sets out a vision for the green infrastructure of London in the future including definitions of what it should do, its value, how it should be managed and funded to ensure ongoing resilience. The report also makes 25 recommendations for future action.

<https://www.london.gov.uk/what-we-do/environment/environment-publications/green-infrastructure-task-force-report>

