

Committee(s):	Date(s):	Item no.
Open Spaces and City Gardens Committee	10 June 2013	
Subject: Summary of a forthcoming research paper: Tree Diseases in London: The Economic, Social and Environmental Impact	Public	
Report of: Director of Open Spaces	For Information	
<p style="text-align: center;"><u>Summary</u></p> <p>A forthcoming research report, commissioned as part of the City of London’s corporate research programme, highlights the threats posed by tree disease to London. The report identifies the homogeneity of tree species in London as causing vulnerability in terms of resisting pests and disease. The report makes the case for valuing trees as a part of the urban ‘green infrastructure’. The report will be used as part of a body of evidence to inform future management plans.</p> <p>Recommendation</p> <p>It is recommended that Members note the contents of this report and the forthcoming publication of the research paper.</p>		

Main Report

1. Background

1.1 The City of London plays a key role in promoting and sustaining London as a world-class city. In addition to a resilient physical infrastructure, a healthy green infrastructure is required to support the city. Recognising the vital role trees play in creating a healthy urban ecosystem, the City of London has commissioned a research paper to investigate the role of trees in urban centres and the benefits they provide, identify the threats to London’s tree stock, and suggest ways of managing these threats, and developing the tree population in the capital.

2. Current Position

2.1 Trees in London face a number of threats, which the City of London has sought to actively manage. In January 2013 the City of London Corporation hosted a Forestry Commission conference on tree disease and pests. This event brought together experts in tree disease with policy makers and land managers to discuss methods of countering threats. In May 2013 the London Oak Processionary Moth Advisory Group, of which the City of London is a member, was supported by the Forestry Commission in securing £2 million of government funding to help tackle this problem.

2.2 The City of London also undertakes regular inspections and activities to tackle tree diseases. For example branches of plane trees infected with the fungal disease massaria are regularly removed, where there is a risk of damage to property or people.

2.3 It is important to ensure that action is taken which promotes the resilience of trees in London to disease and ensures a strategic approach to tackling the spread of disease.

2.4 The report was commissioned as part of the City of London's research programme and prepared by Jago Keen for Ian Keen Ltd.

3. Research findings

3.1 The benefits provided by urban trees

3.1.1 The report adopts an ecosystem services approach to assessing the benefits provided by urban trees. The ecosystem services approach was developed as part of the UN Millennium Ecosystem Assessment, which examined the impact on human wellbeing of changes to ecosystems. Ecosystems provide a number of services to humans: supporting services which sustain life, regulating services such as climate, hydrological cycles and air quality, provisioning services such as food and materials and cultural services.

3.1.2 The report identifies three key services provided by urban trees. Firstly trees play an important role in micro-climate regulation. Due to the many buildings and hard surfaces in London acting as heat stores, temperatures in London tend to be higher than in surrounding areas. The presence of trees is demonstrated to mitigate this effect through shading and evapotranspiration, a process of water loss via the leaves which cools the air.

3.1.3 Secondly trees improve air quality through oxygen generation and the capture of health-damaging airborne particulates, such as sulphur dioxide and

nitrogen oxide. This is of particular importance in London where the UK regularly breaches the levels of pollutants specified by the EU Air Quality Directive, leaving the UK government liable to fines. Trees provide a cost-effective means for public authorities to reduce air pollution.

3.1.4 Finally the report seeks to delineate the role urban trees play in wellbeing and creating a sense of place.

3.2 The threats to London's trees

3.2.1 The report identifies the homogeneity of the tree population in London as a key risk to the long term health of London's trees. The dominance of a few species renders the tree population vulnerable to pests or diseases which attack one of the dominant species.

Table One: Most abundant genera within the City of London

Rank	Genera	Common name	% of the tree cover in the City
1	Platanus	Plane	14
2	Tilia	Lime	9
3	Acer	Maple	8
4	Prunus	Cherry	8
5	Carpinus	Hornbeam	6
6	Betula	Birch	5
7	Sorbus	Rowan/whitebeam	4
8	Quercus	Oak	3
9	Broadleaf		3
10	Magnolia	Magnolia	3
11	Robinia	Locust Tree	3
12	Fraxinus	Ash	3

3.2.2 The report considers the numerous tree diseases present in the UK and their threat to trees in London. The report focuses on novel pests and disease, which originate from overseas and pose a significant threat to native United Kingdom trees, which have no natural resistance to them.

3.2.3 The key threats to trees in London from novel pests and disease are identified as Oak Processionary Moth, Ash Dieback and Massaria. Massaria is judged the most significant to London as its host is the London Plane tree. The report considers that an urban environment may act as a limitation on the spread of Oak Processionary Moth and Ash Dieback, though both continue to pose a serious threat and need to be addressed.

3.3 Sustaining trees in London

3.3.1 The report's author considers approaches to sustaining trees in London. The report suggests that resilience can be built through early identification and preventative action, with eradication of disease where practicable.

3.3.2 The report also discusses how London's tree stock should be developed to promote resilience. It is suggested that diversity of tree species is important. However, the report warns that the function of tree species should also be considered carefully as a factor in diversity. There is a danger that a diversity of species could be planted, but all the chosen species would provide a similar function. Consideration therefore needs to be given to the function of possible species in terms of contribution to air quality, carbon sequestration, supporting biodiversity, noise attenuation and aesthetics, among other functions.

3.3.3 The report emphasises the importance of coordinated large-scale effort in tackling tree disease. London boroughs are urged to share information and data and pool resources to combat threats.

4. Corporate and strategic implications

4.1 The research links to the City Together Strategy. The report makes a case for viewing trees as part of the green infrastructure of the city, which supports the theme in the strategy of "developing and improving the physical environment around our key cultural attractions; and providing safe, secure and accessible Open Spaces.

4.2 The research provides an evidence base for future management plans for all Open Spaces sites.

5. Conclusion

5.1 The report makes a case for viewing trees as essential to the 'green infrastructure' of London. It suggests an approach for sustaining trees in London through effective prevention and eradication of pests and disease, diversity of species and tree function among London's tree stock.

5.2 The report suggests using an ecosystem services approach to properly appreciate the role of trees providing benefits such as air quality improvement, climate regulation and promoting biodiversity. The report emphasises the importance of public authorities working cooperatively to sustain trees in London.

5.3 The full report is due for publication on Wednesday 5th June and will be circulated to Members of this Committee.

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