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Media release

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New report reveals scale of London's garden loss

A pioneering study, *London: Garden City?*, is launched today revealing that **London's gardens - which make up nearly a quarter of Greater London - are changing from green to grey. Garden greenspace¹ in the capital's gardens has been lost at a rate of two and a half Hyde Parks per year driven by recent trends in garden design. While hard surfacing – including decking and paving – increased by over 25 per cent in the 100 month study period.**

The report highlights that the impacts of garden design and management on the environmental role of gardens is an issue that needs to be addressed. Londoners who are not garden-minded may be turning to hard surfacing for practicality, unaware of low maintenance planting alternatives and their many added benefits. While trend setting garden designs often focus on the architecture of a garden, the function and environmental benefits of vegetation and soils can be ignored. But the positive message is people have the power to influence London's environment by changing their gardening behaviour.

The report also considered the effect of housing development on garden land. It shows that on average, 500 gardens or parts of gardens were lost to development per annum in London. This equated to about 6 hectares of vegetated garden land lost to development during each of the years studied – a negligible amount from a city-wide perspective. But, at a local level, each development accounted for an average loss of 200m² of vegetated land, which could have local impacts in terms of wildlife resources, flood drainage and climate change adaptation. The Mayor has proposed to strengthen the capital's spatial development plan, the London Plan, to make it harder for developers to encroach on gardens.

The research used aerial photographs and was conducted in partnership by London Wildlife Trust, Greenspace Information for Greater London (GiGL) and the Greater London Authority.

'As established by this report, London's gardens cover a vast area. But the speed and scale of their loss is alarming,' says Mathew Frith, Deputy Chief Executive of London Wildlife Trust. 'Collectively these losses detrimentally affect London's wildlife and impact on our ability to cope with climate change. It's never been more important that Londoners understand the value of our capital's gardens. A well managed network of the city's 3.8 million gardens support essential wildlife habitat and offer important environmental benefits in response to climate change including sustainable urban drainage,' adds Mathew.

'This is the first research of its kind for London,' says the report's author Chloë Smith. 'The study not only details the amounts of each kind of ground cover in the capital's gardens – never previously documented - but also the gains and losses within a decade. This is important to test well-known anecdotal evidence and other localised research.'

¹ Lawn, tree canopy, and other vegetation

'We can empirically demonstrate the importance of London's gardens,' adds Chloë. 'Our research emphasises that gardens are a major and valuable part of London's greenspace. In particular, we document the area of London's gardens that is primarily vegetation – 57% of the 37,900 ha of garden (22,000ha) is estimated to be vegetated, that's 14% of London'

'In 2008 GiGL recognised that there was a gap in our partnership's knowledge and undertook initial data analysis to establish conclusively how much of each borough was garden land. This work led to the realisation that it would be possible to use aerial photographs to analyse the composition of the gardens. GiGL are delighted that this project has improved the knowledge base that underpins conservation decisions in the capital.' Matt Davies, GiGL Data Manager.

For free advice on wildlife and climate friendly gardening please visit London Wildlife Trust's gardening website www.wildlondon.org.uk/gardening.

Headline Facts and Figures

- **Greater London has a large area of garden land: 37,900 ha, or 24% of the capital is private garden land. This land includes some 3.8 million individual garden plots.**
- **London's gardens are becoming less green: 57% (22,000 ha) of London's garden land is vegetated (measured in 2006-08). But this area has fallen from 25,000 ha in 1998-99. That's a 12% drop of some 3,000 ha, lost at a rate of 2.5 Hyde Parks per year.**
- **Garden maintenance trends have London-wide impacts: Hard surfacing in London's gardens increased from 9,900 ha in 1998-99 to 13,000 ha in 2006-08, a 26% increase of some 2,600 ha. Garden buildings (sheds, glass houses etc.) increased in cover by 55% or 1,000 ha, and mainly in back gardens.**

Ends

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Notes for editors:

1. **London Wildlife Trust** is the only charity dedicated solely to protecting the capital's wildlife and wild spaces, engaging London's diverse communities through access to our nature reserves, campaigning, volunteering and education. www.wildlondon.org.uk
2. **Greenspace Information for Greater London (GiGL)** is the capital's environmental records centre - we collate, manage and make available detailed information on London's wildlife, parks, nature reserves, gardens and other open spaces. <http://www.gigl.org.uk>
3. This project was funded by a legacy left to **The Wildlife Trusts** by Dame Mary Smieton, an enthusiastic gardener and the second ever woman to lead a government department (education).

Impact of development

The report also considered the effect of housing development on garden land. Though we don't know how many whole new gardens were created, on average, 500 gardens or part gardens were lost to development per annum in London. The area increase in hard surfacing and built structures to housing development was balanced by an equivalent loss of 6 ha vegetated land on average per year.

These changes are much smaller than the changes occurring due to garden design and management at a London-wide scale. But, at a local level each development accounted for an average loss of 200m² of vegetated land, which could have local impacts in terms of wildlife resources, flood drainage and climate change adaptation.

While housing development can have a big impact locally on gardens, loss at city level is relatively small: around 6 ha of vegetated garden land was lost to development of London gardens each year studied, accompanied by an equivalent increase in hard surfaces and built structures. This loss is small compared with the overall losses due to design choices, but impacts are likely to be considerable at a local scale.

Methodology

- Two sets of aerial photographs of Greater London (Cities Revealed ©The GeoInformation Group 2008) taken between 1998-98 and between 2006-08 (stored and displayed in MapInfo Professional Version 9.5) were used to estimate land coverage.
- Categories including lawn, tree canopy, mixed other vegetation, hard surfacing (paving, decking etc.), garden buildings, miscellaneous surface and unknown surface were defined following trial analysis of data and ground truth comparison. Small features such as compost heaps or ponds cannot be detected consistently using this technique.
- Proportions of each land cover type were estimated visually for each plot in a stratified sample of garden polygon boundaries from Ordnance Survey MasterMap[®] Topography Layer (updated June 2006). Sample size was 1292 plots, representing the variety present in garden size and each of the 33 London boroughs.
- Average percentage cover of each land category was calculated and this proportion applied to the total known area of garden in each borough to estimate the overall area of a land cover for each time period.
- Data were analysed using Microsoft[®] Office Excel[®] 2007 spreadsheet and R 2.9.0 (see www.r-project.org). Paired t-tests were performed on percentage land cover data (with a log+1 transformation to adjust skew towards normal distribution) to examine the statistical significance of changes.
- Where necessary estimates were adjusted for known sources of bias in the sample. It was not known how many whole garden plots had been totally lost but wholly new garden plots within the sample were identified and removed for the change analysis only to avoid bias.
- For final figures and averages, the category of unknown land cover was proportionately distributed between the different land cover categories, to obtain the best available estimate of the identity of these areas. Calculations were also made for front, back and 'other' garden plots separately.
- Similar methods were used for studying housing development but the units studied were footprints of completed housing developments and their landscaping rather than gardens. Developments on garden land were identified from the London Development Database, from financial years 2005-06 and 2007-08. This included an average of 311 developments per year.
- Findings are presented to 2 significant figures to reflect our confidence in the precision of estimates as standard errors of the mean of main land cover raw values varied from 2% to 4%. Confidence intervals are not presented with main figures as biases and skew in the distribution of garden sizes made this technically difficult.