



## i-Tree in the UK - A Review

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*Report by Colin Hambidge*

A seminar based on studies of i-Tree Eco projects, with talks from those involved, was led by Kenton Rogers, co-founder of Treeconomics, at the Cambridgeshire nursery of Barcham Trees in early October. The day featured seven speakers and allowed a lively exchange of views with a lecture room filled with delegates eager to understand what is happening and what has already been achieved.

The day began with a short presentation from University of Strasbourg PhD student Wissal Selmi on the completed i-Tree project in that city. French-speaking Wissal confidently addressed her audience in English. She said she believed i-Tree Eco provided a complete tool for Urban Forest Assessment. There are 400ha of parks in Strasbourg, and the city's total tree cover is 2750ha, with trees in municipal greenspaces covering 1490ha. Between April and July 2012 228 plots were measured. These contained 588,000 trees, averaging 271.1 trees per hectare.

The study found beech, hazel, ash, sycamore and lime are the five most populous species in Strasbourg. Eighty per cent of the city's trees are in forests, with a further 11 per cent in parks. Wissal told us this was the first time i-Tree Eco has been used in France, and she is keen for other French cities to use the model. Wissal's PhD is in urban planning, and she is investigating assessing ecosystem services and functions provided by local vegetation in urban areas.

The next speaker was the Forestry Commission's urban forestry advisor Jim Smith, who gave a presentation on the i-Tree Eco project currently underway in London. He told us the city's mayor wants a five per cent increase in tree canopy cover by 2025 and a further five per cent by 2050. He asked the question "Where is London's urban forest?" and replied with the answer "Everywhere!". The capital has rich Victorian and Edwardian legacy of plane trees, and its urban forest is broadly donut-shaped. He said we should not restrict ourselves to considering only street trees and peri-urban woodlands, but see the urban forest as a whole.

In London i-Tree experienced a slow and shaky start, having been postponed in 2012 because of the Olympic Games and again in 2013 due to insufficient volunteer interest. In 2014 they took to social

media, which generated a far greater level of interest than in the previous year. But with an initial budget of just £30,000, Jim reminded us this is i-Tree on a shoestring. The RE;LEAF partnership includes many organisations, and most volunteers have come from these groups.

A shoestring budget has not been the only limiting factor. The training capacity, partnership capacity, unexpected delays due to technical issues, insurance matters, volunteer fatigue and the fact the project is being delivered solely by volunteers have all played a part in slowing things down. The aim is to train a total of 300 volunteers, with 220 having already been trained. There are, however, plus points. These include a strong partnership buy-in, volunteer enthusiasm, individual commitment, an international profile, including support from USDA Forest Service and, of course, the role of social media.

Jim reported the scheme has 725 plots across London, 200 of which are in inner London. With an area of 1569 sq km, Greater London's 725 plots means there is one very two sq km. This breaks down to inner London with 319 sq km and 200 plots, so one every 1.6 sq km, and outer London at 1,253 sq km, 525 plots and one every 2.3 sq km. One of the strategic objectives is that London's urban forest should be seen and strategically managed as a single resource covering the whole of Greater London. The i-Tree survey is to act as a precursor to introducing asset and risk management principles for managing the urban forest. The project's objectives are to provide a definitive survey of London's tree and woodland canopy cover, to give a conclusive ecosystem service profile of London's trees and woodlands, and for trees and woodlands to be considered as essential infrastructure.

The project needed 200 volunteers in order to make 66 three-person teams, and for each team to survey an average of three plots a day for three or four days in the summer of 2014. All teams would need to be trained in the i-Tree survey protocols, the online data recording system is based on an i-Tree Eco Users Manual, and each team comprising a supervisor and two volunteers would be autonomous. It finished with 312 registered volunteers, of which 220 are active. There are 74 two- and three-person teams, and what they have to do in the survey is straightforward and easy.

Moray Simpson, arboricultural officer at Wrexham County Borough Council, then made an absorbing presentation on his completed i-Tree project. He began with the blunt statement that Wrexham's urban forest is virtually non-existent! This unitary authority, with a population of 135,000 and an area of 50,220ha, really does have a very low urban canopy cover - although a new tree strategy is currently being drafted. "Wales recognises people experience environmental inequalities, which must be addressed", he told us. The i-Tree Eco project has been completed and reported on, and should be adopted into Wrexham's tree strategy in 2014 or 2015.

The planning process began with a comprehensive tree survey to establish the exact extent of the resource. The town has high air pollution, there are issues of multi-deprivation, and there is low canopy cover both in the town centre and at retail parks. In the past there has been poor planning and management of the urban forest. The perception of trees needs to change, and there is a need to engage with the urban forest, Moray suggested. The survey was undertaken in the summer of 2013, the data sent to the USA in the autumn and the report published in June 2014. Two hundred and two random samples of 0.04ha urban plots were taken. The study found the ecosystem services provided by Wrexham's urban trees are valued at £1.2m per annum. The replacement cost, using the CTLA method, is £0.9b. The study revealed 48 per cent of the ground was impermeable and 28 per cent plantable. Wrexham's urban forest intercepts 27,000,000 litres of rainfall annually, removes 60 tonnes of airborne pollutants, saving the NHS £700,000 by reducing problems such as asthma and heart disease.

The urban trees have 65,773 tonnes of carbon stored in their wood, worth £14m and 1,329 tonnes of carbon removed from the atmosphere every year, worth £24,000. The most commonly planted trees are sycamore (17%), hawthorn (13%) and silver birch (12%). Sycamore is also the best ecosystem provider. Fifty five species of trees were found, but only 10 species form 70 per cent of the total population, so Moray believes greater species diversity is needed to counter the threat of pests and diseases. Overall urban canopy cover at 17 per cent is low, and he would like to achieve at least 20 per cent, but he is under no illusions about the task ahead. He believes Wrexham needs at least 20 years to implement meaningful changes to canopy cover.

Equally as interesting was Edinburgh City Council's parks development manager Keith Logie, who has overseen an i-Tree project in his city. He told delegates it has not so far led to a pot of gold, but hopes it may do in time. He also believes we need to move away from selling risk to selling value where trees are concerned. Edinburgh's i-Tree study was conceived in spring 2011, fieldwork was undertaken that summer, with a report produced in the summer of 2012.

The study was conducted on 200 randomised plots, each of 0.04ha, giving one plot per 57ha. All plots were within the city bypass. Edinburgh's tree cover is in pockets, with many more in parks than in streets. The planned city took shape in the time of David Hume (1711-76) and the Enlightenment, with Edinburgh becoming much greener than it had been in medieval times. He also spoke in praise of Sir Patrick Geddes (1854-1932), an early thinker on green issues who was keen to have public parks as a benefit for the people. Incidentally, Edinburgh has 25 golf courses - the second biggest land use in the city after buildings. It also has a great many *Prunus Kanzan*, which were widely planted in the 1950s.

The i-Tree study revealed Edinburgh has a canopy cover of 17 per cent, with the two main trees being sycamore and, to Keith's surprise, holly. Most trees have 7.7 to 15.2cm DBH. He expressed his

uneasiness at the city's heavy reliance on sycamores, especially as he revealed that 55 per cent of Edinburgh's sycamores are in only 'good' condition. Overall, 71 per cent of its trees are in excellent condition, 8 per cent good, 16 per cent fair, with 15 per cent critical, dying or dead. Keith Logie told us the city now knows much more about its trees than it did, but it would now like to find out more about its biodiversity and the effect of canopy cover on property values.

At this point Jim Smith suggested getting i-Tree volunteers to give politicians the message, while delegate Jeremy Barrell said it was a good idea to aim at mayors who have a personal interest in trees and to target them as champions. Another delegate, Steve Shields from Shrewsbury Council, said he felt it was important to target at a national level rather than relying solely on a piecemeal approach.

The afternoon session began with a talk from Dr Kieron Doick, a senior environmental scientist and acting head of group (Land Regeneration and Urban Greenspace) at Forest Research, the research agency for the UK Forestry Commission. He is a specialist advisor on brownfield land regeneration to quality greenspace. His first question was to ask why the Forestry Commission should come to towns and cities?

There are a number of reasons - because of the value of land regeneration, the value of trees, woods and forests and the value of woods 'where people are', he suggested. He also pointed out that the language of ecosystem services is 'on message', and that there is a lack of land-use change assessment tools. Kieron said that talk of money tends to get matters rolling, allowing those who care for trees to speak at new and different tables.

He also brought to delegates' attention Treezilla ([www.treezilla.org](http://www.treezilla.org)) - the monster map of trees - a new citizen science platform delivered in partnership with Treeconomics and Forest Research aimed at encouraging everyone to learn about local trees, to discover which species are growing where and the ecosystem services they provide.

Karen Martin, executive director of the Arboricultural Association, brought the day to a close with an insight into her visit to Australia as a guest of Arboriculture Australia the main national organisation promoting and representing tree workers, arborists, professional tree management and urban forestry throughout Australia, Hong Kong and the greater Asia Pacific region.

She visited the city of Banyule, north east of Melbourne. It has a population of 118,000 and some 60,000 street trees. Banyule undertook an i-Tree analysis of 11,604 urban street trees, looking at remedial work required, life expectancy and distribution. The findings shocked the city's tree officers. They found the tree population was declining, and that over-mature trees posed a high risk, although they were earlier thought to be only low risk.

The tree officers agreed that a significant increase in tree planting should begin with immediate effect, saying 2,000 more trees should be planted annually, even though these had not been included in the budget. They also felt that larger, longer living trees, and more species, were needed to address the situation. But their analysis of all this needed to be translated into a language capable of convincing the city's councillors and the public that a scheduled, resourced and funded strategy was required to deliver their objectives. It therefore became important to persuade the council of the need for the development of an urban forest management plan and a street tree master plan which enabled urban trees to be seen as valuable pieces of civic infrastructure.

Using positive and constructive language, identifying the levers necessary to persuade, plus financial data and scenarios of the future, the tree officers were successful in convincing Banyule Council. This seemed an excellent example of i-Tree resulting in a major shift in council thinking with a willingness to invest in the urban forest backed by a plan for implementation, concluded Karen.

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