



Urban forests provide people with a range of benefits (or Ecosystem Services) that help make our towns and cities better places to live.

Trees filter air pollution, improve our health, store carbon and reduce flooding, whilst also providing important habitat for wildlife. Trees provide many other benefits too, all at the same time and at little cost.

During the summer of 2016 Southampton University worked in partnership with Southampton City Council, Forest Research, and Treeconomics to survey the trees in Southampton. Using i-Tree Eco, the team quantified the structure of Southampton's urban forest resource and valued a range of the benefits it provides to society.

The services provided by Southampton's Urban Forest are worth **£1.29 Million** every year

Number of Trees
267,000

18.5%
Tree Cover

103
Tree Species

52
Trees per hectare

Southampton's Urban Forest:

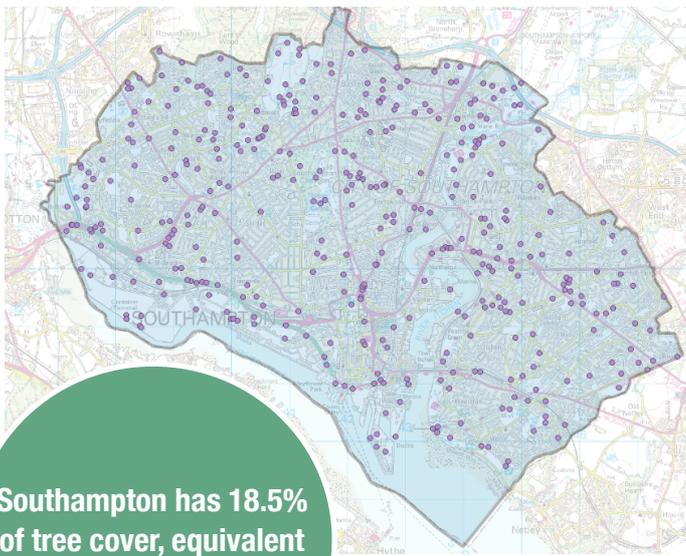
Contains an estimated 267,000 trees which benefit over 253,600 people. That's 1 tree per person, the same ratio as in London.

These Trees:

-  Cover an area equivalent to 929ha with a leaf area of 109.5km².
-  Intercept around 95 million litres of rain water every year, equivalent to an estimated £144,000 in avoided stormwater treatment costs.

-  Filter an estimated 90 tonnes of airborne pollutants each year, worth more than £534,000 thousand in social damage costs.
-  Remove an estimated 2700 tonnes of carbon from the atmosphere each year, worth £609,000.
-  Store an impressive 100,600 tonnes of carbon worth £23.4 million.

Most Common Trees:
Oak, Sycamore
and Holly



Southampton has 18.5% of tree cover, equivalent to 929 ha

Conclusions

Southampton's Tree resource is providing a valuable benefit to all of its residents and visitors. For example, the filtration of sulphur dioxide alone is equivalent to the emissions of 4000 cars every year.

However there are challenges too, *Ash dieback* and *Phytophthora* diseases threaten around 13% of Southampton's tree resource and this could have a devastating effect on the provision of tree benefits.

Understanding urban forest composition is the first step in the proactive management of this important resource. Now we can begin to strategically plan to improve and maintain our urban forest. Through targeted planting, maintaining, diversifying, monitoring, community engagement, training and a whole range of other activities we can ensure that Southampton's Urban Forest continues to provide benefits into the future.

What Next ?

A full report detailing the results is available at:

www.doi.org/10.5258/SOTON/P0001

If you want to learn more or want to find out about the trees in your local area contact Southampton's tree team.

email: trees@southampton.gov.uk

How ?

A survey of 414 randomly allocated plots was undertaken by teams of trained volunteers and professionals across Southampton. Plots were located on both public and private property in both rural and urban areas. **The urban forest is everywhere!** Detailed measurements from over 850 trees were recorded, including the species, height, diameter of the trunk and canopy spread. In addition, details on the location of the trees such as the land use and the ground cover were also collected to build up a picture of the structure and composition of Southampton's urban forest.

What is i-Tree?

A state-of-the-art, peer-reviewed software suite from the USDA Forest Service. i-Tree Eco quantifies the structure and functions of community trees and urban forests.

It is adaptable to multiple scales from a single tree to area-wide assessments. It's also open source and free to use.



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