# Tree Cover in Wales' Towns and Cities

Understanding canopy cover to better plan and manage our urban trees

// Study Summary

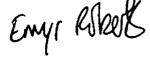**Wales is the first country in the world to undertake a complete canopy cover study of all its urban areas.**

**Some 7,000 large trees were lost between 2006 and 2013.**

Emyr Roberts          Diane McCrea

### Foreword

**Introducing a world first for Wales is a great pleasure, particularly as it relates to greater knowledge about the hugely valuable woodland and tree resource in our towns and cities.**

**Trees are an essential component of our urban ecosystems, delivering a range of services to help sustain life, promote well-being, and support economic benefits.**

**Natural Resources Wales is committed to working with colleagues in the Welsh Government and in public, third and private sector organisations throughout Wales to support and build on this work and promote a strategic approach to managing our urban trees.**

**Dr Emyr Roberts**
**Chief Executive**

**Diane McCrea**
**Chair**

### Tree Cover in Wales' Towns and Cities

A study from Natural Resources Wales provides the facts and figures to help us all understand more about the tree cover in our towns and cities.

Trees are found in a range of urban settings: along streets and roads, in parks and cemeteries, in residential gardens, and there are even urban woodlands. Single trees and small groups which particularly enhance public and private areas are often called 'amenity' trees – we'll all have our favourites.

Wales is the **first country in the world** to complete a survey of canopy cover in all its urban areas. Using nationwide aerial photography, we identified and mapped the leafy crown spread of the trees in our towns and cities. As it's mainly through their canopies that trees deliver benefits, the study focuses on this, rather than counting individual numbers of trees. We first analysed aerials from 2006 as our baseline, and then followed this up with both 2009 and 2013 photography to identify any changes in the intervening seven years. Full details are set out in the *Tree Cover in Wales' Towns and Cities* study. We'll continue to survey at regular intervals to keep tabs on what's happening to our tree cover.

The study provides an evidence base to help a range of key groups and organisations - from community tree interest groups to urban planners and decision-makers in local authorities and national government - to plan and manage our urban tree resource in a better way.

Dafydd Fryer

**Urban tree canopy in Wales was 16.3% in 2013 - mid range in world rankings.**

### Survey Headlines

- Urban tree canopy in Wales was 16.3% in 2013, down from 17.0% in 2009 - mid range in world rankings

- Total cover varies dramatically across the country – from just 6% in Rhyl and 8% in Port Talbot to 30% in Treharris and 27% in Abertillery

- Landscape character strongly influences existing tree cover – often low in coastal towns and high in the South Wales Valleys

- 159 out of our 220 towns show an overall decline in canopy cover between 2009 and 2013

- Some 7,000 large amenity trees were lost over 7 years, possibly due to increasing development pressure, or trees planted by the Victorians coming to the end of their lives

- Just 1% of all tree cover is found in areas of high-density housing – often our most deprived areas. Private residential gardens make up 35% of Wales' towns and cities - gardens provide 20% of all urban tree cover

- Public open space hosts 53% of all tree cover in our communities despite making up only 22% of urban land. 21% of graveyards and cemeteries are covered by tree canopy

- Transport routes (including verges and pavements) make up 16% of urban land but they have tree cover of only 9%. Motorised traffic causes much of the urban air and surface water pollution – which trees have the ability to remove

- There is great variation in tree cover within Wales' top 10 most deprived wards – from as little as 2% in Rhyl West 2 to 19% in Merthyr Vale 2

- 35% of total canopy cover is provided by woodland, with 'amenity' trees accounting for the rest. Where high tree cover does occur at ward level, it's often attributed to areas of woodland. Such woodlands can sometimes be unmanaged and inaccessible.
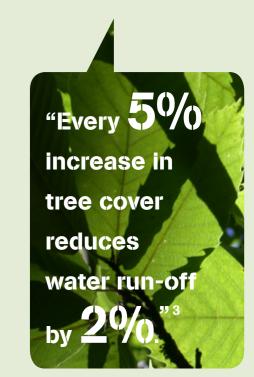
**1947**

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# Trees are powerful and versatile natural assets

"Customers are prepared to pay more for parking and goods (9-12% for some products) in landscaped shopping areas."[1]

"Children living in areas with more street trees have lower prevalence of asthma."[2]

Creating attractive towns

Encouraging exercise

Improving health and well-being

Connecting people with nature

Countering the extremes of climate change

Encouraging inward investment

Improving community cohesion

Removing pollutants and dust from air

Slowing surface flood-water run-off

Helping retail areas perform better

Lowering crime levels

Providing shelter, shade and cooling

Increasing property values

Storing carbon

"Every 5% increase in tree cover reduces water run-off by 2%."[3]

"Increasing green-cover by 10% can reduce surface temperature of a city by 3 - 4°C."[4]

**159** out of our **220** towns show an overall decline in canopy cover between 2009 - 2013.

If all 'green land' sites identified were planted, with the right trees in the right places, cover in towns could be increased by **35-52%.**

# Where would you rather live, work and play?



Dafydd Fryer

Moray Simpson

## Potential for Tree Cover

*Tree Cover in Wales' Towns and Cities* also assesses 'green land' sites (areas of soil, grass and shrubs) for potential planting, looking at one major town in each local authority.

If all 'green land' sites identified were planted with the right trees in the right places, cover in those towns could be increased by 35%-52%.

Knowing where trees might be planted helps planners to set realistic canopy cover targets. Many North American and Australian cities have comprehensive tree strategies with tree canopy cover goals. Portland in Oregon, with a similar climate to Wales, intends to increase its cover by 7% from its current level of 26%. In the UK, Bristol City Council has set an aspirational goal of increasing canopy cover from 14% to 30%.

If Welsh towns with lower cover aimed for 20% (the UK Forest Standard woodland definition) in the medium term, we could have a nation of woodland towns!



Dafydd Fryer

Dafydd Fryer

## The Way Ahead

Having good evidence is important. Taking action based on that evidence is crucial - the study highlights significant opportunities to enhance Wales' urban tree resource. The Welsh Government wants to see woodlands and trees playing a greater and more valued role in towns and cities[5], improving quality of life and surroundings. This is how we can work together to make the most of what we now know:

**WHAT WE CAN ALL DO:**

**NATURAL RESOURCES WALES WILL:**

### Share and build the evidence

What gets measured gets managed. The study has addressed a significant information gap. It's crucial that we continue to share findings and continue the research:

1  Use and share the data

2  Build on the data to add qualitative information e.g. developing a greater understanding of tree species, their condition and value, surveying the extent of young trees and determining public / private ownership of trees

1  Make all data available on the **Lle** website for download

2  Undertake further survey updates using the latest aerial photography

3  Gather feedback on the study to improve methodology

4  Explore collaborative approaches to data collection and sharing

5  Promote and publish best practice case studies

### Adopt a strategic approach to managing our urban trees

The study has identified significant discrepancies in canopy cover levels between and within individual towns. International best practice shows that the best way to ensure all urban communities achieve adequate canopy cover is to:

3  Develop and adopt local Tree Strategies – particularly in less canopied areas

4  Set local tree canopy cover targets to drive and monitor progress

6  Develop an enabling programme – supporting local authorities with least canopy cover and most tree loss

7  Encourage and celebrate local success

### Supporting sustainable urban tree management

Significant rates of tree loss have been identified. It's crucial that we:

5  Review the effectiveness and use of existing tools and legislation for tree care and preservation

6  Ensure that the potential of grant programmes is maximised to support Wales' urban treescape.

8  Support the Welsh Government's review of existing tools and legislation for tree care and preservation and their use.

If Welsh towns with lower cover aimed for **20%** (the UK Forest Standard woodland definition) in the medium term – we could have a nation of woodland towns!



Dafydd Fryer

# Landscape character influences tree cover - often low in coastal towns and high in the South Wales Valleys...

## ... from just
# 6% in Rhyl
## to 30%
## in Treharris.

## Where to start?

- Give us feedback and comments – **urbantrees@naturalresourceswales.gov.uk**
- Download the full version of the *Tree Cover in Wales' Towns and Cities* study from the Urban Trees page on our Natural Resources Wales' website
- Look at those towns assessed in your local areas to identify their tree canopy cover using the County Local Evidence Packages from the Infobase Cymru website
- Download the study datasets in GIS and tabular formats from the Welsh Government and Natural Resources Wales Lle geo-portal website
- Request a copy of your county report providing details of the canopy cover in your local towns and neighbourhoods from **urbantrees@naturalresourceswales.gov.uk**

## References:

[1] 'Trees in Business Districts – Positive Effects on Consumer Behaviour'. Wolf K, University of Washington College of Forest Resources (1998)

[2] Journal of Epidemiology and Community Health 62(7): pp647-9. Lovasi GS, Quinn JW, Neckerman KM, Perzanowski MS, Rundle A (2007)

[3] 'The role of woodland in flood control: a landscape perspective'. Nisbet TR, Thomas H, Forest Research (2006)

[4] Manchester University research programme, Adaptation Strategies for Climate Change in the Urban Environment (2007)

[5] The Welsh Assembly Government's Strategy for Woodlands and Trees 'Woodlands for Wales' (2009)

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