Welcome

England’s community forests Conference 2016 #ECF16
Sir Harry Studholme
Chair, Forestry Commission
Paul Nolan
Project Director
The Mersey Forest
Our Manifesto

• Supporting economic growth
• Making better use of the Planning System
• Improving health
• Enabling climate change adaptation
• Planting trees! - with communities
• Increasing biodiversity
Northern Powerhouse
White Rose

• £17m allocated for green blue infrastructure in city region’s SUD /ESIF allocation. 2016-21
Green Infrastructure and Growth

The benefits of Green Infrastructure to the Liverpool City Region

- **Improved health & wellbeing, reduced health inequality**
  - High quality environments attract knowledge industries and high worth individuals
  - GI can unlock Strategic Investment Areas, increasing opportunities for investment
  - $6,500 jobs in the LCR linked to GI – 2,000 additional could be created
  - Acceleration of development times, reducing the period of vacant plots and sustains rental values
  - Lifetime CO₂ savings of 338kt
  - Identified solar PV projects could generate a total of £3.2m revenue per annum
  - Miscanthus crops offer potential revenues of £382k per year

- **The creation of high quality gateways to the City Region**
  - £240m wider economic value to the City Region
  - GI Mitigates the impacts of extreme weather, attenuates flood events, provides shading and creates spaces resilient to environmental change
  - £23m GVA created from GI projects
  - £167m property value uplift can be gained
  - Living and working close to GI is associated with increased physical activity

ARUP
Great Western Community Forest

- Community Forest setting for major development
  - 8000 new houses
Health Research

Forest School

Time spent in light intensity physical activity

![Graph showing light intensity physical activity by different days of the week.](image)
Climate adaptation

- Cool Cities
- “Urban Catchment Forestry”
- Natural Flood Management
Community Tree Planting

Saturday 24th January
10am-noon — rain or shine!

Volunteers are needed to help plant trees at Titchfield Park - wildflower meadow area

Your support is important and will be much appreciated (tools are provided)

Event supported by Greenwood

For further information visit: www.titchfieldpark.co.uk
City of Trees

Manchester City of Trees

GROWING MORE TREES FOR GREATER MANCHESTER
Wood Allotments

Happy to cut the wood yourself?

A WOOD ALLOTMENT COULD BE FOR YOU.

Want affordable logs for your stove?
Marston Vale

Queens award for Voluntary Service
Greenwood

Supporting communities to take ownership of sites

“Best day ever!”
“hope isn’t a strategy, but it is an awfully good tactic.”

-Seth Godin
Thank You

Paul Nolan
Director
The Mersey Forest

paulnolan@merseyforest.org.uk
www.merseyforest.org.uk
Shireen Chambers

Chief Executive
Institute of Chartered Foresters
Professionalism in Forestry

Shireen Chambers
Executive Director
Institute of chartered Foresters

England’s Community Forests Conference March 2016
Our mission statement

The Institute’s mission is to raise professional standards in forestry and arboriculture throughout the UK.
What is a professional?

Professional ► **noun** a person engaged or qualified in a profession: *professionals such as lawyers and surveyors.*

- a person engaged in a specific activity, especially a sport, as a main paid occupation rather than as a pastime.

- a person competent or skilled in a particular activity: *she was a real professional on stage.*
A professional ......

- Is competent or skilled in a particular activity
- Provides a service based on a special relationship with the client
- Should be educated rather than trained
- Must be independent of the influence of the state or commerce
- Should have legitimised authority
- Has the social function of speaking out on broad matters of public policy and justice
Why we need a Code of Conduct

TRUST
The Code of Conduct

• Act with integrity
• Always provide a high standard of service
• Treat others with respect
• Take responsibility
• Act in a way that promotes trust in the profession
• Have regard for sustainability throughout your work
Don’t take my word for it...

“Chartered Status is a badge that instantly tells people that you are both a forester and a professional; in short, no further explanation is needed.”

Rebecca Heaton FICFor
Head of Sustainability
Drax
Stand out from the cowboys

“Most tree officers probably don’t think it is very necessary, but I think it benefits me as an arboriculturist.

Collectively we can promote our profession and stand out from the so-called cowboys that damage our industry.”

Vincenzo de Iacovo,
Croydon Council
Leading by example

“Chartered Forester status demonstrates your commitment to increasing the professionalism of the sector. You are leading by example. Chartered Status can provide a framework for personal development and provides evidence of your own professional expertise for career development and promotion.”

Kevin May MICFor
Director (South West)
Forestry Commission
Strong, informed and confident

“Society needs strong, informed and confident tree professionals to provide robust recommendations to planning case officers, and to defend council decisions at appeal.

Their job is critical in ensuring a healthy, diverse and multi-functional tree scape.”
Forestry Careers in 60 Seconds

www.youtube.com/CharteredForesters

#GrowingCareers
Forestry Careers in 60 Seconds

www.youtube.com/CharteredForesters
#GrowingCareers
Jane Carlsen

Chair of

Urban Forest and Woodland Advisory Committee
Our Vision of a resilient Urban Forest

The Urban FWAC Network

23 March 2016
Vision

• Benefits of trees recognised and invested in
• Recognised as integral to form and function of all urban areas
• Helps create healthy and economically successful communities and liveable places for people and wildlife
Themes

• Strategic planning and infrastructure
• Climate Change
• Natural environment
• Human health and quality of life
• Planning and development
• Economy and growth
• Value and resources
• Risks and resilience
Theme 1

Strategic Planning and Green Infrastructure
Theme 2
Climate Change
Theme 3

The Natural Environment
Theme 4

Human Health
Theme 4

Planning and Development
Theme 8

Risks and Resilience
The Future

The Challenges
Vision

The full document is available from:
www.forestry.gov.uk/urbanforestry
Prof. Rob McKenzie

Director,
Birmingham Institute of Forest Research
University of Birmingham
Do trees really help to clean the air in our towns and cities?

Rob MacKenzie, Birmingham Institute of Forest Research

Image from http://videohive.net/item/fast-city-drive-02/476188
BIFoR FACE research woodland is up and running

2-minute University Annual Meeting video
Silent video showing build and installation of scientific kit
Take-home messages:

• Except in special circumstances, the deposition of pollution to vegetation is subtle (1% effect)
  • We know the general characteristics giving rise to special circumstances

• Allometry, applied to urban areas, suggests a significant role for urban forests:
  • diluting air pollution

Newsflash: new paper on floods and forests discussed on Simon Dixon’s blog
The built land surface can affect air pollutants in five ways:

1. (a) Site for creativity → resource use and waste (emission)
2. Trapping pollutants in the spaces between buildings (fumigation)
3. Producing swirls and eddies in the air that mix pollutants away from the ground (ventilation)
4. Slowing the horizontal wind → reducing horizontal dilution
5. Transfer of pollutants from the air to the surface (deposition)
Green Infrastructure can amplify built environment effects:

1. (b) Emission of volatile organic compounds (VOCs) that form ozone and secondary organic aerosol and produce an additional effect:

6. Making space for cleaner air

No single model captures all these effects, but models can show us examples of when each effect is likely to dominate...

...remember that green space is not an add-on to urban form – often in-place long before buildings, vehicles, street furniture, etc...

Op-ed: “Do trees really help clear the air in our cities?”
The allometric scaling of urban air pollution emissions and concentrations

With Matt Barnes, Duncan Whyatt, Nick Hewitt (Lancaster University)
Scaling (‘allometry’) relates all kinds of properties of cities to their size (population)

\[ Y(t) = Y_0 N(t)^\alpha \]

\( \alpha < 1 \): economies of scale
\( \alpha = 1 \): proportionality
\( \alpha > 1 \): increasing returns for scale

Scaling analysis of UK settlements shows this behaviour for air pollutants

Variability in the form of same-size settlements

Scale-invariant elements of urban form – not necessarily physical form

Modest “economy of scale” when considering all UK settlements

\[ n = 4837; r^2 = 0.71 \]
\[ \alpha = 0.91 \]
## Correlation Metrics

<table>
<thead>
<tr>
<th>Emissions</th>
<th>n</th>
<th>α</th>
<th>$r^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO\textsubscript{x}</td>
<td>4837</td>
<td>0.91</td>
<td>0.71</td>
</tr>
<tr>
<td>CO\textsubscript{2}</td>
<td>4837</td>
<td>0.95</td>
<td>0.78</td>
</tr>
<tr>
<td>CH\textsubscript{4}</td>
<td>4837</td>
<td>0.68</td>
<td>0.61</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}</td>
<td>4837</td>
<td>0.70</td>
<td>0.62</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>4837</td>
<td>0.68</td>
<td>0.58</td>
</tr>
<tr>
<td>Road length</td>
<td>4837</td>
<td>0.70</td>
<td>0.86</td>
</tr>
</tbody>
</table>

The air pollution emissions scaling is not wholly explained by the road length scaling.

Carbon Dioxide (CO\textsubscript{2}) and oxides of nitrogen (NO\textsubscript{x}) behave very similarly across UK cities.

Provides a chance to tackle climate and air pollution together – but how?

1. Focus on urban areas doing worse than expected
2. Apply ‘scale-aware’ regulation – but regs often formulated in terms of concentrations not emissions
1. Focus on urban areas doing worse than expected...
Size is not what determines whether a city is a better or worse polluter than expected – e.g. oxides of nitrogen

![Graph showing urban areas performance](image-url)

- 137 Cities, $\alpha = 1.04$
- Better than expected:
  1. Bognor Regis
  2. Scarborough
  3. Southport
  4. Eastbourne
  9. London
- Worse than expected:
  104 Birmingham
  134. Guildford
  135. Newport
  136. Slough
  137. Grays Thurrock
Simplified heuristic

$$\alpha_c = \alpha_E - \frac{\alpha_A}{2}$$

suggests a slope of $\sim 0.6$ for air pollution concentrations in 137 largest UK urban settlements.

Consistent with scaling relations found by satellite for urban areas in USA, Europe, China, and India (emissions and area scalings are region-specific)

Lamsal et al. (op. cit.):

``In a Chinese city of 10 million people, the average outdoor ambient NO$_2$ concentrations are $10^{0.66} = 4.6$ times higher than in an average city of 1 million. This greater concentration occurs even though cities with higher populations have higher energy efficiency and, therefore, lower per capita NO$_2$ emissions.''

4.6 times is a lot better than 10 times!...but is still horrible and very dangerous for the residents of the city of 10m.
2. Apply ‘scale-aware’ regulation – look for policy that ‘tilts’ rather than ‘slides’ scaling

- nb. Deposition to Green infrastructure isn’t effective at this scale, but can use to change area scaling – dilution effect
Scaling of pollution ‘hotspots’

Not all pollution is well-mixed throughout the urban airshed. Pockets of high concentration – esp. in busy street canyons. The likelihood of the occurrence of pollution hotspots, $H$, is

$$H \propto \frac{Y_E}{Y_L} F$$

$F$ = fraction of roads liable to poor ventilation (fumigation), and $Y_E/Y_L$ = average emission per unit road length in the urban area.

Analysis reveals: $Y_E/Y_L$ increases very slowly with population ($\alpha_{E/L} \approx 0.2$).

Scaling of $F$ with population will depend on changes in urban form. Emergence of dense high-rise central business district — will generate a larger fraction of poorly ventilated streets. Strict self-similarity (i.e., ‘tiling’ of urban form): $F$ scales linearly. Hence, $\alpha_F \geq 1$.

Overall: $\alpha_H \geq 1.2$. 

Potentially large role for GI here
Prescribing nature: can we provide the evidence base?

PhD available: Air quality impacts on psychological and cognitive well-being
Visions of a sustainable UK include substantial areas of woodland in and around cities

Health & well-being
  – national parks & urban green space
UHI mitigation
**Air pollution control**
Sustainable urban drainage

• Seek multiple benefits
• Implement ‘scale-aware’ policies
• Avoid hype
Mike Norbury

Green Infrastructure Officer
Cheshire West and Chester

England’s community forests
Natural Flood Management

Mike Norbury
Green Infrastructure Officer
TotalEnvironment@cheshirewestandchester.gov.uk
State of the Nation – Flood Risk

Flooding indicators

- 1970 (6.3%)
- 1980 (10.2%)
- 1990 (11.3%)
- 2000 (12.2%)
- 2010 (16.4%)

Legend:
- EA Gauging station 70005
- River
- Catchment boundary
- Rural
- Suburban
- Urban
Heavy rainfall on hourly timescales (mm h\(^{-1}\)) in summer (June–July–August; JJA)

**a.** Observed radar. **b,c.** Difference between model and observed radar for 12 km and 1.5 km models, respectively. **d,e.** Difference between 2100 and present-day for 12 km and 1.5 km models, respectively. Heavy rainfall is defined as the mean of the upper 5% of wet values (>0.1 mm h\(^{-1}\)). White indicates differences or future changes not significant at the 1% level compared to year-to-year variability. The radar data has been bias corrected using daily rain gauge data.
A Hardened Landscape:
Catalyzed Runoff
Flood mitigation can start where precipitation strikes the earth’s surface, the fate of that rainfall is highly influenced by how we manage the landscape.

Natural flood management measures seek to retain the raindrop near where it falls and slow river flow by a series of interventions which alter, restore or use landscape features to retain rapid sheet-runoff, which may have otherwise combined with nearby pathways to create a larger magnitude of inundation.

Natural flood management seeks to slow, store and disconnect flow pathways.
Project Background

- Haydock, St Helens, Merseyside
- Floods in Sep 2000, Nov 2012...
- ...and Dec 2015!
- Four watercourses:
  - Black Brook
  - St Helens Canal
  - Clipsley Brook
  - Stanley Brook
- ≈ 10 residential properties at risk of frequent flooding
Case Study: Practicing Natural Flood Management in St. Helens, Merseyside
Option 4 - Stanley Brook Hybrid Dams
Conclusions
Beccy Speight
Chief Executive
The Woodland Trust
Charter for Trees, Woods and People

It’s our time. It’s our future. It’s our charter.
Charter

Steering Group
The Charter Vision

A future in which the many benefits of trees and woods are understood, treasured and fully realised in all areas of society.
Our Mission

To lead society in a celebration of the value of trees and woods, and in the creation of a charter that roots the beauty and utility of trees in public consciousness and at the heart of decision-making.
2010 - Attempted Government sale of some public forest estate in England
2015-17
Climate Change
Housing development
Infrastructure development
63 ancient woods threatened by HS2 Phase 1

- Roundhill Wood, Staffordshire
- South Cubbington Wood, Warwickshire
- Long Itching Wood, Warwickshire
- Sheephouse Wood, Buckinghamshire
- Ravenshaw Wood, Staffordshire
- Broadwells Wood, Warwickshire
- Halse Copse, Northamptonshire
- Decoypond Wood, Buckinghamshire

KEY:
- Red circle: Direct loss (34)
- Yellow circle: Indirect impact (29)
Forestry Livelihoods
Screen Time vs Wild Time
The Charter for trees, woods and people

Trees and woods inspire stories in all of us. These stories are slowly fading into memory and our trees and woods are at risk of being forgotten and neglected. It's time to start standing up for trees. Share your story and help to create a charter for the UK that is rooted in our connections to trees and woods.

Share your story

Fields marked with an * are required

Title *

First Name *

Last Name *

Email

Share your story *
Community
Send us your details and we will add your group to the map. We will need to display your address and email to allow people to get in touch. Please bear with us as during busy periods it may take up to 48 hours to add your details to the map.

**Your group name**

**Contact details**
(These will be published on the map).

**Title**

**First name**

**Last name**

**Email**

**Phone number**

**Your website**
CANOPY
4-5 March 2016
Talton Lodge

WORKSHOPS | TALKS | STORYTELLING | WOODLAND TRAIL | LIVE MUSIC

Photo WTPL / Brian Adrich
Looking Forward

<table>
<thead>
<tr>
<th>2016 Gathering Stories</th>
<th>2017 Building the Tree Charter</th>
<th>The Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring: Nature, beauty, stories</td>
<td><strong>The creation of the Charter for Trees, Woods and People</strong></td>
<td>LAUNCH</td>
</tr>
<tr>
<td>Summer: Health, Wellbeing &amp; Adventure</td>
<td>- Principles drawn from stories and drafted as charter for public review</td>
<td></td>
</tr>
<tr>
<td>Autumn: Utility of trees (timber, orchards, craft) &amp; woodland management</td>
<td>- Physical legacy of charter created with involvement of communities</td>
<td></td>
</tr>
<tr>
<td>Winter: Celebration, Community, Cultural Heritage</td>
<td><strong>Charter tour</strong></td>
<td>?</td>
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<table>
<thead>
<tr>
<th>Mar 16</th>
<th>Apr 16</th>
<th>May 16</th>
<th>June 16</th>
<th>July 16</th>
<th>Aug 16</th>
<th>Sep 16</th>
<th>Oct 16</th>
<th>Nov 16</th>
<th>Dec 16</th>
<th>Jan 17</th>
<th>Feb 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotland campaign launch</td>
<td>Nationwide tree dressing events</td>
<td>Communities involved in creating local and national charter legacy</td>
<td>Charter tour</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Youth resources online</td>
<td>Targeted consultations – woodland owners, farmers, disability groups etc</td>
<td>Launching the charter</td>
<td>Guidance &amp; lobbying</td>
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</table>
We need **you** to stick up for trees!

- Share your story
- Join or start a local Charter Branch to connect people and trees
- Write a blog or Charter Branch newspaper article
- Use #TreeCharter on Twitter, Instagram and Facebook

Treecharter.uk
Workshop

Sandra Palmer

England’s community forests
WHAT WE’LL COVER IN THIS SESSION
OUR VISION FOR A RESILIENT URBAN FOREST
OBJECTIVES

- Consider the opportunities and challenges provided by the *Charter for trees, woods & people and the Vision for a resilient urban forest*
- Assess alignment of the Charter and the Vision with the purpose and vision for your organisations
- Capture personal stories to support the development of the Charter
- Respond to the three questions asked in the Vision, including opportunities and challenges this presents
OUR AGENDA FOR THIS SESSION

- THE CHARTER
- WHAT IS YOUR STORY
- THE VISION
- THE CHALLENGE 3 QUESTIONS
- WHAT NEXT?
THE CHARTER
CHARTER FOR TREES, WOODS AND PEOPLE

○ **Our Vision**
  A future in which the many benefits of trees and woods are understood, treasured and fully realised in all areas of society.

○ **Our Mission**
  To lead society in a celebration of the value of trees and woods, and in the creation of a charter that roots the beauty and utility of trees in public consciousness and at the heart of decision-making.
CHARTER FOR TREES, WOODS AND PEOPLE

- Building a national story of trees and woods - showing how important they are to people today and what role communities want them to play in our future.
- In 2017 we will create a charter that is rooted in these stories, grounded in the present, and shapes our future.
- We will look to our Charter Champions across the country to help us create a charter that delivers for them, their local community, and the trees and woods at its heart.
WHAT IS YOUR STORY?
Nothing happens until somebody feels something.
ROCK-A-BYE BABY

- Cradle lodged in treetop
- Blowing wind initiates cradle movement
- Supporting bough breaks
- Cradle (and occupant) descend rapidly
- Extent of infant injury unknown

What's wrong with this picture?
CHARTER FOR TREES, WOODS AND PEOPLE
YOUR STORY

YOU HAVE 5 MINUTES EACH TO TELL YOUR STORY

- Interviewer: asks the questions
- Storyteller: tells their story
- Recorder: records the story

Interviewer: ask how it made them feel, what was happening, what difference did it make, what did people talk about....etc.
let’s share some of your stories
CONTRIBUTING TO THE CHARTER

YOU HAVE 15 MINUTES

- What opportunities might the Charter provide?
- What benefits might it bring?
- How can your organisation contribute to re-igniting the fire and the development of the Charter?
Let’s hear…

your key points
THE VISION
OUR VISION FOR A RESILIENT URBAN FOREST

our vision
for a resilient
urban forest
THE VISION – 8 THEMES

1: Strategic planning and green infrastructure
2: Climate change
3: Natural environment
4: Human health and quality of live
5: Planning and development
6: Economy and growth
7: Value and resources
8: Risks and resilience
THE CHALLENGE –
3 BIG QUESTIONS
THE CHALLENGE – THREE QUESTIONS

- Do you know the scale and value of your urban forest? Are you harnessing the power of new tools, big data and volunteer commitment to measure the true value of your trees?

- How well do you support the care of our existing urban forest? Are you engaging with the enthusiasm of local communities and businesses for the protection, improvement and expansion of their urban forest?

- Do you have a target to increase tree and canopy cover in your town or city? Will you be planting more trees?
QUESTION 1: SCALE, VALUE AND HARNESSING POWER

YOU HAVE 20 MINUTES

- Do you know the scale and value of your urban forest? Are you harnessing the power of new tools, big data and volunteer commitment to measure the true value of your trees?
- Key challenges to overcome?
QUESTION 2: SUPPORT, CARE AND ENGAGEMENT

YOU HAVE 20 MINUTES

- How well do you support the care of our existing urban forest? Are you engaging with the enthusiasm of local communities and businesses for the protection, improvement and expansion of their urban forest?
- Key challenges to overcome?
Table lead moves to another group to share thinking
now let’s hear …

some key points
QUESTION 3: MORE CANOPY, MORE TREES

- Do you have a target to increase tree and canopy cover in your town or city? Will you be planting more trees?
- Key challenges to overcome?
Any questions or comments?
WHAT NEXT
Thank You

Safe journey home

England’s community forests
THANK YOU
MELBOURNE - URBAN FOREST STRATEGY

THE VISION FOR THE CENTRAL CITY’S URBAN FOREST

The Central City’s Urban Forest will provide a safe and inviting habitat for people. The Forest will be beautiful, colourful and diverse, achieving whimsy in playful spaces and elegance along Grand City Streets.

THE VISION FOR SOUTH YARRA’S URBAN FOREST

South Yarra’s Urban Forest will be spectacular and engaging, providing interest through shape, colour and light. Canopies will be shady and lush, and understory will provide habitat for native birds and bees.
PHILADELPHIA – URBAN FORESTRY SYSTEM FRAMEWORK
NUCFAC - URBAN FORESTRY ACTION PLAN 2016-2026
NATIONAL URBAN & COMMUNITY FORESTRY ADVISORY COUNCIL

2026: Going for the Gold!

Plan Vision
Urban and Community Forests Increase Sustainability, Wellness, and Resilience in All Communities.

Plan Mission
Help All Communities Create Urban and Community Forests that are Diverse, Healthy, and Accessible for All Citizens.

Urban Forestry Progress in the Last Decade

Source: Community Accomplishment Report System for Urban and Community Forestry (CARS)