Growing a resilient research base for urban trees

Chair: Susannah Gill, Research, Policy and Practice, The Mersey Forest

Keynote:
The importance and value of tree research and its and its benefits to practice: the 3-30-300 rule and other stories.
Professor Cecil Konijnendijk, Director, Nature Based Solutions Institute and author of the 3-30-300 Principle for urban trees

This will be followed by 6 short (10 minute) presentations from each of the finalists with a chance for the audience to ask questions and the researchers to ask questions from the audience. The audience will be asked to select the winner and two runners up after their presentations.

Sponsor: The Mersey Forest, one of England's 15 Community Forests, covering Cheshire and Merseyside. It has established over 10 million trees since the early 1990s, working with trees for the benefit of people, nature, and climate. Its new Ideas Lab seeks to work with academic partners to turn The Mersey Forest into a living laboratory, researching alongside and informing delivery.

Partners: Chartered Institute of Ecology and Environmental Management (CIEEM), Institution of Highway Engineers (IHE), Landscape Institute (LI), Town and Country Planning Association (TCPA), and the Urban Design Group (UDG)

NB: All recordings and presentations are on the TDAG website along with the information and links form the chat. https://www.tdag.org.uk/past-events.html

QUESTIONS, COMMENTS AND REFERENCES

Cecil's keynote talk inspired several questions and useful references as shown below:

Canopy Cover

Cecil also raised the importance of crown volume when assessing canopy cover and this is currently the subject of much discussion with the TDAG First Steps Guides, the review of BS 5837 and just how best to assess canopy cover generally and under the biodiversity theme.

- English version: https://www.youtube.com/watch?v=zBpZvRFHW5s
- Dutch version: https://www.norminstituutbomen.nl/bomennorm/

3-30-300 Rule

What do you find are the key points to make to get policy makers to support trees? Just to add…3-30-300 has caught the imagination of politicians but are you finding that they follow through to support delivery

- From Cecil: The key points to make to politicians / policy-makers, in my opinion: We need to let our trees live longer and bigger, where possible. Rather less trees in better growing conditions and with better management than a lot of small trees with poor conditions, in my view. Then the essential role of trees in promoting health and wellbeing and climate adaptation are the key 'selling points'.

Just to add…. And how can this be monitored over time.

- From Cecil: Yes, following through with the municipalities that are implementing 3+30+300 will be essential. We are doing this in a few Nordic projects and have some plans for a Dutch monitoring project as well.

For cities that sadly just cannot meet targets such as 3-30-300, either through lack of space or otherwise, is there a risk of said rules demotivating decision makers? Or even the other end of the spectrum, if cities surpass these metrics will they then reduce their greening efforts?

- From Cecil: Yes, it is important to stress that 3+30+300 is an ambition but that making improvements on each of the three components over time is really the key point. Similarly, for cities performing better it is important not to get complacent
- Thanks Cecil - London is an interesting case study on this point. It has lots of lovely large trees, but limited planting space, so I wonder if it is inevitable that there will be a reduction in canopy cover through time as the older trees reach the end of their life but there is nowhere to grow bigger ones?
    - From Cecil: From Cecil: I advised the city of Groningen a bit during the development of their Urban Forest Master Plan. The point of a (temporary) drop in canopy did come up. Not necessarily bad if there is a clear strategy in place to grow new, large trees. Melbourne did a great job on this, building a more diverse urban forest as they had to replace some of the older trees that were suffering from drought.

I have been running a 3-30-300 model in GIS using residential properties. Is there a parallel model for commercial properties and how health etc may be affected, as much of adult life is spent at work?

- From Cecil: Very interesting… there has been quite a bit of work in the Netherlands on 'working landscapes of the future', focused on greening of commercial properties, offering 20-minute walks etc. Also, a decade or so ago, a Danish researcher called Lene Lottrup did some interesting work on the

importance of green views and lunchtime walks for people working in knowledge industries. We are trying to connect this to 3+30+300 as well.
See: https://www.werklandschappen.nl/

Have there been design codes where this rule has been used?
From Cecil: I know that e.g., some Danish municipalities have been doing this, as well as the Icelandic capital of Reykjavik

Has any tree officers used the 3-30-300 rule to help support them in their reason for refusal of TPO or Conservation Area applications to remove trees?

- From Cecil: Agreed - it would be great to hear if there are any experiences of this in the UK!

Are there any cities/ urban areas that meet the 30% cover target?

Other questions to Cecil
Curious to know your thoughts on these new ISO certs

What would be your top tip for someone new to urban forestry research?

- From Cecil: I would say: stay curious and open, engage with affiliated professionals, find your own niche in this large field. It is a great time to start a career in this field, I think.

Also, interesting positive competition between cities… Gray cities does not seem to be 'cool' (in many sense) anymore…

- From Cecil: Definitely, good point. This is an important motivation for cities

We put questions from the 6 early career researchers into the chat inviting the audience to respond.

Isabella Bhoan
Learning the Land Digitally – LIM

Isabella's question to the audience:

1.Thinking about your current portfolio, how do financial returns, community well-being, and ESG rules compete when you green-light a project?"

2.What are the biggest hurdles—data, policy, or procurement—that currently stop local authorities and developers from using quantified ecosystem-service metrics when selecting, funding, and maintaining trees, and how could tools like LIM help remove those barriers?

Isabella - Extremely fascinating. How does public design preference impact your simulations? Were there public consultations incorporated into the pilot project in the train station pilot project?

- From Isabella: Yes absolutely - Hereford went through a 6 weeks public engagement process both in person and online - We incorporated considerations from the session in the design and LIM then recalculated our outcome. This also meant that the ecological co-benefits were reduced to ensure a holistic design with value for all. But LIM was crucial in explaining the design choices and helped the public understand the more invisible benefits the design provided

Isabella - Thank you for the presentation. Great tool! Our biggest problem is that those commissioning design and implementing proposals are not the same organisations that look after the landscape in the long term. Therefore, the balance is skewed towards short term cost without taking long-term maintenance or community wellbeing into account properly. I can see that this tool would be helpful for Council officers to give Planning Authorities' more confidence / evidence to demand better quality.

From Isabella: We have identified exactly does concerns. We are continuing to develop LIM to better predict maintenance requirements and needs - really is crucial for a successful public realm over time

Will Leaning, University of Sheffield
Predicting the impacts of climate change on urban green populations and urban community forest strategies.

Will's question to the audience:
Where do you feel the biggest gaps remain between academic research on urban trees and the needs of practitioners and policymakers?

- From Cecil: @Will: excellent question. I think one gap pertains to the 'packaging' of research in ways that are easily applicable for practitioners and policymakers
- Message rather than Q for Will Leaning, hopefully you are aware of the models from Kevin Martin at RBG Kew for home ranges of tree species, and how he is using that for future suitability. Andy Hirons (Myerscough) also fed into this work and its application in Gr London
    - Yes, it is interesting work. If i remember correctly this is based on a few species from the botanic gardens which are more widely planted. I think where our work will differ is between the species looked at, where they are, and the focus on in-situ urban planting (streets, parks, etc). I cannot talk yet about some of my methods as I am yet to fully implement and publish but, hopefully, I can share in the coming year!

@Will Leaning excellent talk, really fascinating. I think you highlighted the biggest gap in your talk, which is the massive gap between the amount of planting… and the survival rates after a few years. This fundamentally undermines the rationale for urban tree planting. Anything that can improve survival would be welcomed.

- From Will: Hopefully my work will be able to inform us which species to plant now that will last until they are mature with minimal intervention (if that's possible!). I really hope to also be able to include that social dimension with the community, as mentioned, people don't like poor quality green spaces so working with communities is needed to build our urban forest resilience

- I have similar experience with one school arboretum project here in Finland. All the trees are still alive (after few summers). In here probably due to a good maintenance through the first summers (mainly watering). But yes, it is interesting to see where we are in 10 years' time…

From Simon Carr: Within our Voices of the Future projects, we did quite a lot of work with different community groups of children and young people, where they led the co-design of tree planting strategies. We are only a few years post-planting, but already TMF and Manchester City of Trees have found much higher survival rates in these projects, which we attribute to a greater sense of connection between the trees and the local community.

From Will: This is fantastic news! I'll be really interested to read about the planting and management protocols and if these differed to other public projects

- From Simon Carr: I've got a couple of grant application deadlines in the next week, but let's get in touch in mind-November to discuss

@Will Leaning: those working on the ground face poor soils, tight budgets, complex sites, with short timelines shaping political and development decisions with limited attention to social, cultural, and equity dimensions

Without clearly defined terms and statutory guidance, local governments throughout the UK will continue to differ in opinion on how much weighting should be attributed to each aspect of 'amenity' and when it is 'expedient' to afford a tree statutory' protection.' Some may not even make their assessments in a structured and consistent way. Such differences currently result in the unnecessary, avoidable loss of many hundreds of significant trees throughout the UK each year, even in areas where there is a statutory requirement to "pay special attention to the desirability of preserving or enhancing the character or appearance "of an area.

Hi Will, i believe it's a lot more than a few species, as they have used it for the London urban forest. Publication due very soon, so do watch out for it, i think you'll find it interesting :-)

Do you find the TDAG Species Guide useful?

- From Will: It's a fantastic resource and one that I have heavily considered in my approach (and if anyone hasn't looked at it, do, it is so in depth). Where I hope my project adds to this is every location differs so much in urban tree success, i.e. in my pilot study i found massive differences in within species outcomes,

which when using tolerances alone has left me with even more questions! I have read all his (as well as a few other names I've noticed in this call) publications in preparation of my own project.
    - Yes, agreed – local climate and conditions are a vital influencing factor for tree success.

Are you going to be looking at just trees that were standard sized on planting or will you look also at large whip plantings?

- From Will: Most are of the standard or similar sizing and is a consideration as most urban plantings where I am looking are of these sizes. However, it would be really interesting to see results from the whole range of planting sizes. There's the general rule of the smaller the tree the more likely it'll survive after planting, but I'm not too sure now that rule really applies!

Elle Smith, University of Leeds
The role of private garden trees and woodland cover for 3-30-300 success in seven English cities.

Elle's question to the audience:
How can we change how people feel about trees in their gardens? Many people see them as a nuisance (too much shade, annoying fruit or leaf fall etc.) but don't consider their benefits and remove them as a result. What can we do to change perceptions and encourage people to value and properly take care of their garden trees?

@Elle Smith: Reframing trees as living neighbours, not landscape features (relational framing). Hosting neighbourhood tree walks can create informal and sensory-based experiences where storytelling builds empathy from varied perspectives

I think this lends support for long-term stewardship, collaborative partnerships, and increased participatory governance for healthier urban forests

Many thanks for your presentation, Elle. One way to convince folks of the value of having trees in their gardens or close to them is to have community meetings that are not too 'professional' to start with. The community forests do this, and find that people have very little trust in 'official' people anymore, so things have to start off quite casually. also working with schools can help, as the kids go home and talk about the chats they had with 'the tree people' at school and this gets a few parents to the next community meeting. It all takes time of course but it is interesting how many people can be turned on to trees.

- From Elle: Thanks! That's an interesting point that I hadn't thought of before but does tally with how it seems many people feel these days.

Given the importance of garden trees have you seen local authorities priortise those spaces that they don't control? How can we encourage/legislate for more trees in gardens when they're ostensibly in private hands?

- This is a really interesting point - and I think this would form a really nice piece of future work. As part of this study I didn't delve into practices of local authorities but anecdotally I have seen cases of local councils giving free trees away for people to plant in their gardens. I think this comes back to though encouraging people themselves to want to have trees in their gardens, and my question of how we can change people's perceptions about this.
    - And how can ordinary residents influence local authorities to protect and preserve garden trees? (Answer will vary from place to place, for sure)
    - A carrot rather than stick is needed to encourage landowners to keep/plant garden trees
    - Here in Finland the atmosphere has really changed, and people have really got active concerning about local trees and forests. The folks have stopped many loggings and 'cleanings' with local activity.
    - Yes indeed, more public knowledge of the benefits of trees in their own gardens is essential but I'm not sure what route that can take if people don't want to be educated. But thank you Elle.

Mahtab Shiravi, University of Florence
Multi-risk analysis of wind and rain for urban trees

Mahtab's question to the audience:
How can existing urban planning policies and infrastructure guidelines in the UK be improved to integrate tree stability modelling and multi-hazard risk analysis, particularly in the light of increased storm intensity due to climate change?

A very interesting presentation, Mahtab – and it will take time to digest the details. My question - does using this technique help to protect trees that might otherwise have been assumed to be weak and so felled particularly with increased storm intensity?

Madeleine Tate, Newcastle University
Peri-urban strategies for sustainable surface water management.

Madeleine's question to the audience:
What would give you more confidence that trees and SuDS planters can help manage flooding in your area?

Is it case studies with monitoring to demonstrate success?

- From Madeleine: Ideally, the case studies with monitoring can demonstrate success. However, I'm particularly interested in using them to show how performance relates to weather conditions, to evidence the benefits for managing surface water flooding and to identify best practice for optimising this.

- From Madeleine: Absolutely — policy and funding always seem to be the sticking points. I'm aiming to use this work to demonstrate the value of the trees for surface water management and find the best ways to evidence that benefit as well as linking it to the policy for better integration into plans.

- Other responses: My own experience is that the Highways Team and Trees team understand the benefits of surface water management, but there is insufficient funding to implement. This is partly because Climate Action is not a statutory duty and therefore local authorities don't get funding from central government. Some local authorities have got around this by ensuring that climate adaption is a key objective within their Corporate Risk Register, which basically means that they put resource behind looking for funding to support climate adaption, looking at climate bonds etc. So there needs to be the governance and therefore the will in place to put much of this into action.

Will this work also help to determine how much to water trees to support establishment?

Do you plan on collecting sap flow data for conifers

- From Madeleine: Due to limitations on the number of sites I can monitor and the available trees in the area, I don't currently plan to include conifers in the monitoring.

Do you know how long the tree you're monitoring has been 'in the ground' and how old it was when it was planted

- From Madeleine: I have some information on the currently monitored tree, but for the others I won't have that level of detail. However, because the installation of the sap flow meters requires taking a core sample, this will give us additional information about the trees, including an estimate of their age.

There is a lot of work going on with CIWEM, ICE and CIRIA on SuDS…are you linked with this as they may need better evidence-based input on trees

From Madeleine: Thanks for flagging this. I've heard of the work being done, but I'm not directly linked to it. It does sound like something worth exploring

Jackie Hamilton, McGill University - The benefits of emotionally engaged care for trees.

Jackie's question to the audience:
Have you observed instances where residents' emotional connections to specific trees led to better outcomes for urban forest management? What made those situations work?

I really like the perspective that trees have needs!

: In the City of Vancouver, there is an Inspiration Board that highlights a food forest, a teaching garden, community garden, a medicine wheel garden. It is in early stages. Also, in cities, it can be easy to forget that trees are living systems where urban and commercial tree care focuses on risk, etc. but they often miss the emotional, cultural, and social connections that make people truly care. In some neighbourhoods, where canopy cover is sparse and residents have little say in planting decisions, "care" can start to feel like something done to a community rather than with it. Maybe if we could create space for trees to share their stories with the people who live around them? It might look like small, semi-permanent signs with QR codes that link to short stories about their cultural, ecological, or historical meaning. This could support a conversation between trees and us where care is amplified over maintenance.
here is the link to that website, https://www.shapeyourcity.ca/burrard-view-garden/news_feed/inspiration-board

- From Jackie: I love this idea and look forward to checking out this project, thank you for sharing. I'm also really interested in this kind of education, I know of some cities, like Toronto which have adopt-a-street tree program to help build these relationships

I think that it was in Australia, that people have named city trees… This creates different kind of relationship to the city trees…yes, Melbourne.

- From Jackie: Yes, the email project in Melbourne really nicely illustrates how the public cares for trees in quite surprising ways to the municipality! This project is wonderful https://www.uow.edu.au/media/2024/arbor-amor-a-love-letter-to-a-citys-trees.php

- CBC program Absolutely Canadian featured a local group here in Edmonton. The Secret Long Tree Society. Is available to view.

GENERAL QUESTIONS AND DISCUSSION POINTS

Education: Picking up the points above, in England, there are many places in the National Curriculum where trees could be included in high school education - English, maths, biology, art, religious studies, history, etc. More targeted learning resources are needed.

- Sue James: important point about education – we have just had the curriculum review and the Teach the Future student led Shadow Curriculum Review – but there are still limitations on including climate change, nature, trees etc throughout all school subjects…and yet they easily could be as the Teach the Future Track Changes project showed. *Curriculum for a Changed Climate: track changes review of the National Curriculum for England*. https://www.teachthefuture.uk/blog/curriculum-for-a-changing-climate-a-track-changes-review-of-the-national-curriculum-for-england

Media:
Do you think we need a stronger relationship with the media? A programme on the BBC about the value of urban trees and the benefits that we all have from them might be useful?

- And more widely than on the BBC… please

Thanks https://linktr.ee/ExmouthTreeProject

OTHER REFERENCES

From David Long who, as ever, have provided many useful links – many thanks!

https://ianswalkonthewildside.wordpress.com/2025/10/12/noisy-grey-squirrels/comment-page-1/#comment-7621

Tree evaluation and protection:
In the UK, the Government advises local governments to "develop ways of assessing the amenity value of trees in a structured and consistent way," because trees of sufficient "amenity" can be afforded statutory protection.
However, there is no standardized method of assessment used by all. Consideration also has to be given as to whether or not it is 'expedient' to afford a tree statutory protection. Again, there is no universal standardized method of assessment that local governments must use. Research to develop new methods of assessment could be very valuable.
https://www.legislation.gov.uk/ukpga/1990/8/part/VIII

https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas#Protecting-trees-in-conservation-areas

'Tree Evaluation Method for Preservation Orders (TEMPO -A systematised assessment tool for TPO suitability)':
https://web.archive.org/web/20200116023525/https://flac.uk.com/wp-content/uploads/2014/12/TEMPO-GN.pdf

'Exploring the social and cultural values of trees and woodlands in England: A new composite measure':
https://besjournals.onlinelibrary.wiley.com/doi/10.1002/pan3.10644

Sheffield City Council are currently only using the TEMPO assessment to decide whether to afford trees statutory protection. The scoring system decides the outcome.

STATUTORY TREE PROTECTION IN THE UK - Excerpts from the TEMPO Guidance Notes:
TEMPO is supposed to function as a guide and not as a substitute for the surveyor's judgement. "
"It is important to note that this assessment should be made based on the assumption that the tree or trees concerned will be maintained in accordance with good practice,

and will not, for example, be subjected to construction damage or inappropriate pruning. This is because if the subject tree is 'successful' under tempo, it will shortly enjoy TPO protection (assuming that it doesn't already)."

Further excerpts from the TEMPO Guidance Notes: "However, central government advice is clear that, even where there is no expedient reason to make a TPO, this is still an option.
However, it is not felt necessary to incorporate such considerations into the method, as it is chiefly intended for field use: these OTHER CONSIDERATIONS are most suitably addressed as part of a desk study.
As a final note on this point, it should be stressed that THE METHOD IS NOT PRESCRIPTIVE except in relation to zero scores: TEMPO MERELY RECOMMENDS a course of action."
https://ianswalkonthewildside.wordpress.com/2025/04/15/tree-felling-debacle-in-enfield-by-toby-carvery/#comment-7536
Wessolly, L. and Erb, M., 2016.
MANUAL OF TREE STATISTICS AND TREE INSPECTION. Patzer Verlag: Berlin-Hannover.
https://vdoc.pub/download/tree-statics-and-tree-inspection-356qj9timcbg

https://web.archive.org/web/20240612094430/https://vdoc.pub/download/tree-statics-and-tree-inspection-356qj9timcbg

https://auf.isa-arbor.com/

Climate score cards: https://councilclimatescorecards.uk/

TDAG are exploring opportunities to create update the old and develop a new case study library

Many expressions of thanks and appreciation followed – so very many thanks to Cecil, Susannah for chairing and the six early career researchers with their very varied and fascinating projects.

LAST TDAG SEMINAR FOR 2026
Our final seminar for 2025 will be on **9th December, 2-4pm GMT**
Resilience through BNG? What have we learned – a two-year review
Zoom registration: https://bham-ac-uk.zoom.us/meeting/register/UJOo9UqZSnKFvqY07VnMtw#/registration

Full details are available in Events on the TDAG website www.tdag.org.uk

SEMINARS FOR 2026
We are starting to plan these, so many thanks to those who have sent in suggestions…please keep them coming sue.jamesriba@gmail.com