



IANZ 2024 NATURE POSITIVE CITIES SYMPOSIUM

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Sheraton Grand Sydney Hyde Park
161 Elizabeth Street, Sydney



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ABSTRACT

An Evidence-base for Achieving Canopy Cover Targets - How Many Trees? How Much Space? What Required Resourcing? and Where to Prioritise Plantings? New Tools, Approaches, and Case Studies

Extreme urban heat has severe consequences for human health and is a leading cause of increased global morbidity and mortality rates. Trees and green spaces are now recognised as a key mechanism to help alleviate urban heat, with multiple benefits for people, the environment, ecosystem functioning, local economies, and infrastructure maintenance and lifetimes. Given the urgent need to cool our cities and towns, particularly in the face of increased urbanisation and climate change, many decision-makers are striving for increases in urban tree canopy cover. Future canopy cover targets though are often set without an understanding of how many trees will need to be planted to achieve the target, whether there is enough space available, what it will cost, and where to prioritise plantings; leading to the risk of unfunded commitments or inefficient plantings.

Edge's Tree Planting Predictor® tool (TPP) was developed to directly support urban land managers and decision-makers make evidenced-based decisions about setting ambitious though achievable future canopy cover targets. The tool is Excel-based and designed to be delivered in a paired workshop process, which helps tailor its application for given locations and build confidence from technical staff through to decision-makers about the underlying technical rigour.

Once we know how many trees need to be planted, the next important decision is where to start planting in order to maximise equitable access to the cooling benefits and other co-benefits provided by trees. Edge's Street Tree Prioritiser™ tool (STP) quantifies planting locations across a City, and prioritises these locations based on integrated-prioritisation analyses of user-defined input criteria. As a minimum, we recommend prioritisation criteria include: urban heat, canopy cover, plantable space, social vulnerability, and green equity (i.e. compliance with the 3:30:300 rule). By doing so, planting location outputs are prioritised in the hottest areas, with the lowest canopy cover, highest plantable opportunities, most vulnerable community concentrations, and lowest green equity.

Through combining the outputs from the TPP and STP, powerful, evidence-based recommendations can be made about annual prioritised planting programs that will contribute to achieving canopy cover targets whilst being implemented in such a way as to equitably maximise the cooling and health benefits provided by trees.

In this presentation, we will provide an overview of these tools and approaches and demonstrate their application through selected case studies where these tools have been applied. A summary of key findings will outline some of the resulting impacts on strategic planning and operational delivery of tree planting programs.

SPEAKER BIOGRAPHY

I am a highly motivated and enthusiastic ecologist with over 18 years' experience working in research, private and State government sectors. With a PhD in urban ecology and landscape ecology and a post-doctorate in climate change ecology and urban ecology, I'm a leading practitioner of urban greening, urban heat, and urban biodiversity measurement, monitoring, and strategy development.

My main interests lie in linking leading scientific knowledge and global best-practice with practical on-ground actions to facilitate effective and efficient conservation planning and management in urban landscapes. I have a passion for creating liveable cities for people and native biodiversity, through building an evidence-based strategic understanding of green infrastructure benefits, and engaging land managers, planners, and the community.