



References and answers to questions

Useful links:

Dr Croeser's 3-30-300 study (open access): <https://www.nature.com/articles/s41467-024-53402-2> Email thami.croeser@rmit.edu.au

CitiesWithNature website: <https://citieswithnature.org/>

CitiesWithNature Action Platform: <https://citieswithnature.org/actions/>

CBD Decision 15/12: <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-12-en.pdf>

GBF: <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>

Media release 8th summit: <https://cbc.iclei.org/media-release-8th-summit-for-subnational-governments-cities-taking-action-for-biodiversity-partnering-progress-peace/>

Berlin Urban Nature Pact: <https://citieswithnature.org/berlin-urban-nature-pact/>

Cities Biodiversity Index: <https://citieswithnature.org/cbi-introduction/>

Journeys for Life: <https://cbc.iclei.org/project/journeys-for-life/>

Wetland City Accreditation (including the list of wetland cities): <https://www.ramsar.org/our-work/activities/wetland-city-accreditation#:~:text=The%20Wetland%20City%20Accreditation%20scheme,awareness%20of%20wetlands%20and%20participation>

ICLEI Oceania Newsletter: <https://www.icleioceania.org/iclei-oceania-subscribe>

ICLEI Oceania Climate and Nature Suite of Programs: https://www.icleioceania.org/s/CaN-2025-doc_updated-4-Nov-2024.pdf

Question	Answer
A general question from a new Local government officer. My experience so far in the role is that there is so much to do just getting the basics done, such as implementing small scale projects, engaging with community and partners etc. my concern is that the reporting of global indicators appears to be a significant amount of work, on top of biodiversity officers already very busy schedules, including state of the environment report.	This is valid and something we have heard often. We are actively working with multiple organizations to streamline reporting processes and reduce duplication of effort. In addition, as representatives of local governments on these global platforms ICLEI is constantly working on offering capacity support. For example, CitiesWithNature now hosts the Berlin Urban Nature Pact, providing a centralized platform for urban biodiversity commitments. Importantly, the Berlin Urban Nature Pact is linked to the CitiesWithNature Action Platform which is recognized in CBD decision 15/12 as being the online platform where cities can report on, and track progress against, their commitments to the Kunming-Montreal Global Biodiversity Framework targets. Additionally, we've developed a digitized version of the Cities Biodiversity Index, making it easier for local governments to assess and monitor the progress of their biodiversity conservation efforts against their own individual baselines. These efforts aim to simplify data collection, align with existing workflows, and ultimately support biodiversity officers in focusing on impactful action rather than excessive paperwork. The CitiesWithNature platform is voluntary and it is up to the city on how much or how little they would like to do, we find that some cities find it easier to utilise existing policies and adding it onto the platforms.

Amanda Stone: Question regarding advice to cities and how they can get involved without waiting for their national governments?	That's exactly why the CitiesWithNature Action Platform is there, this allows cities to report on what they are doing on a local level. The platform is recognised in the CBD Dec 15/12 as the place where local governments can report their actions towards meeting the targets set out in the Kunming-Montreal GBF. These commitments and actions made by cities on the platform will feed into the CBD data and national reports on progress made towards achieving the said targets.
Great to see this Thami - i'd be really interested in catching up further to chat. My sustainable cities team at Edge Impact have recently completed development of Canterbury Bankstown Council's Urban Forest Strategy - as part of this strategy, we included analysis (including spatial) of compliance to the 3:30:300 rule and included the compliance into our tree planting location prioritisation analysis.	Looking forward to meeting!
More a comment - red/green systems are a problem for a significant portion of the population, perhaps offer a different colour scale for these people? Love to see the mapping though :)	Noted, thanks - red/green was used for the earliest prototypes but orange/blue was employed in our formal publication.
How do you apply the system where there are large number of high rises/apartments/strata? Do the parameters change?	The parameters do not change, as they represent human needs rather than built form. These tests do tend to become more difficult to meet as neighbourhoods densify. One interesting point of ambiguity is in tall buildings, where a 'view to 3 trees' is a little difficult to be certain of in apartments above the treeline.
I have come across this in my work in urban greening and whilst I think this is a good overarching principle to aim for planning purposes, but always struggled with the concept of this as a measure. How did you determine the figure for 'view of a tree?'. What is the height used to determine 'canopy?' Vegetation is also important - many of our areas in the City of Onkaparinga in South Australia are harsh, dry coastal climatic conditions which are not conducive to achieving 30% canopy cover, so we will need to focus on other vegetation and cooling approaches.	Generally, when using laser scanned data, vegetation above 2m is regarded as tree cover, though I've seen 3m used in some cases. For spatial tests, we tested for a direct unobstructed line of sight from building frontages to each tree within 30m. There may be more potential than you expect to achieve canopy cover in your area, but you will need to employ some extra tricks to get it. Most landscapes have locally adapted tree species that can handle challenging conditions, especially many native tree species - I hope you have some scope to look at species selection. Denser planting (trees closer together) is also a helpful strategy when trees tend to be quite compact/low. Facilitating soil moisture

	through stormwater infiltration using permeable paving and/or infiltration kerbs (e.g. the Treenet inlet) is also worth a look.
what about understorey? really important in biodiversity	This was noted as a gap in the 3-30-300 method - definitely one to keep managing even if you embrace this metric.
Thami - I've developed a tool (the Urban Ecological Value tool) that covers exactly these elements of urban biodiversity index. Our UEV tool allows you to benchmark and also set targets and understand what management actions would need to be undertaken to achieve target score	Looking forward to our discussion!
Nativeness vs risk mitigation for pests. How does a biodiversity index reconcile with that. Am in Perth, it all myrtaceae	A skilled arb/botanical team can generally help you pick out a selection of mostly native species that do not pose undue risks. It's worth noting though that we are not necessarily advocating a purely native planting palette.
I am joining in from Berlin. Thank you for the nice spatial analysis of the 3*30*300. I have two questions: 1. To what extent is the 3*30*300 retrofittable for nonresidential places in the cities? 2. To what extent are distant green spaces factored in the 3*30*300 as counters for urban heat island effect / habitat loss in cities?	I'd suggest this is mainly used to benchmark places where humans are. 3-30-300 analysis often shows industrial areas and airports to be problematic, which requires some judgment - this is not always true. 3-30-300 really looks at local conditions - approximately the neighbourhood scale. If you have a huge forest near you that affects the mesoclimatic conditions, that won't be reflected in the 3-30-300 result. However,
City data is not essential. We can analyse the 3-30-300 rule with satellite imagery, pinpoint trees/segments, and compute the outcomes. Our method's main advantage is its accuracy, allowing us to view each individual tree in the city.	Yes, I have also worked with firms that can do this. It's not a common skillset and I don't think satellite data is ideal in terms of precision, but the upside is that these analyses can be done at large scales without city data.
How does a city sign up for the research and geodata contributions? Sue Effenberger AlburyCity Council NSW Aust.	The work on the 3-30-300 metric has concluded but they are welcome to access my paper and build their analysis following my steps, or using the guides published this week (see Cecil Konijnendijks posts on LinkedIn). My next program of research is close to publication so we're not looking for new partners on that slice of the work, but will be releasing the street survey tool as part of that publication in late 2025. Always happy for them to reach out to me direct to clarify what they wanted, too.

Does CwN/RwN link to OECM?	The Action Platform allows cities / regions to commit to taking action, set targets and report on protected areas, including other effective area-based conservation measures (OECMs), which are included in Target 3 of the Kunming-Montreal Global Biodiversity Framework (GBF). The Action Platform is aligned with the 23 action targets in the GBF) These platforms further encourage cities and regions to integrate biodiversity and ecosystem services into planning, which aligns with OECM principles.
Hi Thami, Thank you for your wonderful presentaion. This is more to share relevant information rather than to ask a question: While listening to your presentation, I noticed that the Ministry of Environment of the Republic of Korea recommended the 3-30-300 rule to cities in 2023. (However, I haven't found much information beyond a single article.) The article from the ministry highlighted case studies from overseas, particularly an example from Melbourne.	Thanks! I couldn't find anything much on this either, but i'll keep an eye out for news of uptake in Korea.
It's challenging to allocate space for biodiversity in urban areas. In this context, how can we incentivize people to promote biodiversity in their backyards and nature strips? Are there any successful examples?	Here are two examples: - The Gardens for Wildlife program - The city of Fremantle's Verge Gardening Guidelines A simple search for Naturestrip Guidelines will yield results for many Melbourne (Australia) Councils who allow residents to plant out naturestrips with native plants & in some cases productive gardens. City of Cape Town, South Africa: In order to grow the conservation estate, it is essential to consider mechanisms to secure private land. Biodiversity Stewardship is one of the implementation tools that may appeal to landowners, especially outside of the Urban Edge, as it offers incentives such as rates rebates and biodiversity management advice and assistance. Under South African biodiversity policy and legislation, biodiversity stewardship is an approach to entering into agreements with private and communal landowners to protect and manage land in biodiversity priority areas, led by conservation authorities in South Africa. It recognises landowners as the custodians of biodiversity on their land. Biodiversity stewardship is based on voluntary

	commitments from landowners, with a range of different types of Biodiversity Stewardship Agreements available to support conservation and sustainable resource use. Some types of Biodiversity Stewardship Agreements are formally declared as protected areas in terms of the Protected Areas Act, providing long-term security for the sites involved. The City of Cape Town's (CCT) Conservation Stewardship Programme is a voluntary conservation initiative. Once a property has been identified, the landowner is approached and a relationship is developed. Landowners are informed of the ecological value and global significance of their property; as well as the potential fiscal and other conservation incentives. A landowner then either proceeds with this process by going into an agreement with a conservation organisation, or the property is earmarked as a site for land acquisition. Conservation Stewardship is implemented in Cape Town by the South African National Parks Land Consolidation Unit for areas in the Cape Peninsula Protected Natural Environment (adjacent to Table Mountain National Park), and city-wide by CapeNature (the provincial conservation authority) and the CCT Biodiversity Management Branch. Currently, several landowners are in the process of signing perpetuity conservation contracts. The Green Point Urban Park and Biodiversity Showcase Garden in Cape Town is an example of how the city government transformed a dysfunctional public open space into a vibrant public amenity, biodiversity corridor and high quality multifunctional park. The development of this park was linked to the construction of the Cape Town Stadium for the FIFA 2010 event on Green Point Common. The City of Cape Town and provincial government also run regular awareness raising campaigns, sometimes in conjunction with commercial nurseries, to encourage property owners to plant indigenous plants in their gardens to support local flora and fauna and limit the number of invasive species entering the city. These campaigns have further benefits such as encouraging waterwise gardening and attracting pollinators like bees and songbirds.
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Could you please update the status of dissemination of 3-30-300 rule for implementation so far, highlighting the cities of developing countries.	I have seen very few studies of developing country results so far, and when I looked for open data to include developing cities in my study I had no success finding anything suitable. Satellite data makes at least a basic kind of 3-30-300 analysis possible in any city so the potential is there to work around data constraints.
Thami, great talk. As an ecologist advising a developer who wants to implement 3-30-300 on large projects - e.g. up to 15ha in central Melbourne, are there any tools we can use to ensure initial designs are adequate, accounting for projected tree death/growth rates/ turnover etc?	I'd suggest that the 3 and 300 tests are things you could generally eyeball on a landscape plan if you have buildings overlaid. However, for the 30 test, one of your most decisive factors is soil volume, as it quickly constrains growth when under-provided. I would use the following soil volume calculator to ensure that you create appropriate conditions to grow suitably large trees, and/or plant sufficient small/medium trees if large trees can't be accommodated. 30-40cubic metres per large tree is a common requirement. https://www.elkeh.com.au/soils/ Also think carefully about infiltration/irrigation. Studies have shown trees with passive irrigation and appropriate drainage grow up to twice as fast. https://www.sciencedirect.com/science/article/pii/S0169204618304420 Please feel free to contact me if you want to discuss growth modelling further, this is an area in which I publish.
Sounds we need to follow Thami to keep up with the new and best technology to make the monitoring and reporting processes easier. Yay, thanks Thami!	:)
Are you looking to do any cost/benefit analysis for retrofitting interventions to increase 3:30:300 scores?	No, but if I did this I'd ensure health benefits were in scope, as well as reduced replacement rates for footpaths and asphalt due to thermal expansion.
Thank you everyone for the presentations and the questions. Was wondering about the minimum size of a green space	This is a grey area in the method, and it varies - but it's usually 0.5ha or 1.0ha. In my study of new New York, this minimum led to the non-counting of many pocket parks in dense areas like Manhattan.