

Branching out: Wagga's plan to grow urban resilience

COUNCIL NAME

Wagga Wagga Council

WEB ADDRESS

wagga.nsw.gov.au

SIZE

318 square kilometres

POPULATION

68,000

FUNDING PROGRAM

Increasing Resilience to Climate Change

Overview

The climate of the Murray Murrumbidgee region is changing. According to AdaptNSW's climate snapshot, the region will be about 0.6°C hotter in the near future, and around 1.9°C hotter by 2070. The number of extreme heat days is projected to increase, and the number of frost risk nights is expected to fall.

Increasing temperatures in the Murray Murrumbidgee could have profound impacts for human health, biodiversity, energy consumption and liveability.

Extreme heat can be mitigated by increasing urban trees but with canopy coverage of just 10.8% across the local government area, Wagga Wagga City Council had lots of room for improvement.

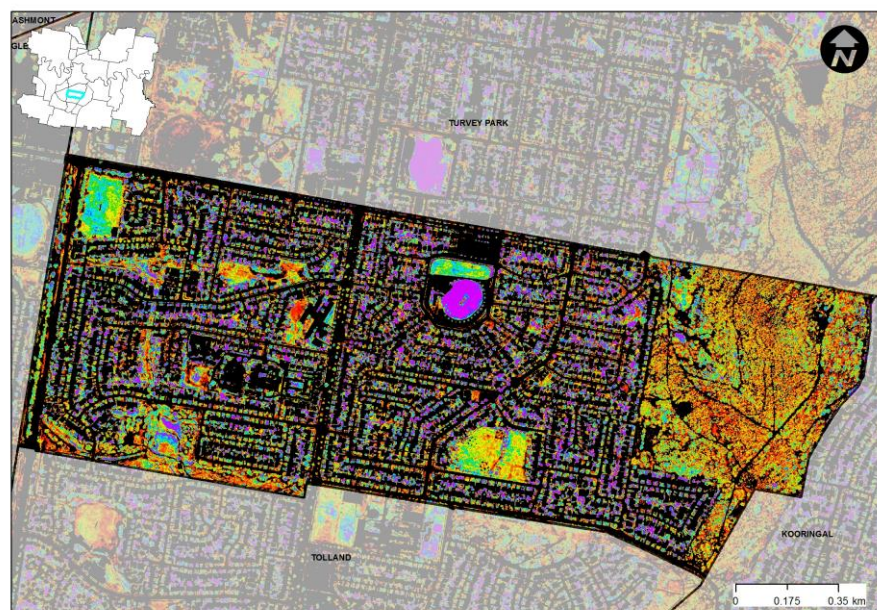
Background

Wagga Wagga City Council launched its first biodiversity strategy, Maldhangilanha 2020-2030, in August 2020. The strategy includes 69 measurable actions including conducting urban canopy mapping and establishing a tree cover target for urban areas with infrastructure-friendly species.

The overarching target of the strategy is to increase the cover of native box gum woodland within the local government area by 10% (1,900ha) by 2030.

Implementation

In February 2021, Council's environmental consultants spent five days capturing high-resolution aerial imagery of the vegetation and local land surface temperatures across the local government area of 318 square kilometres.



Datasets covered 27 suburbs, land use zones and road reserves and were analysed to help Council understand where canopy cover and urban heat islands existed and more importantly, didn't exist. This gave Council insight to target suburbs, land use areas (such as public open space or roadside reserve), neighbourhoods and active travel paths for priority tree planting.

Canopy cover proportions varied between 2% (in industrial and farming areas) to 16% (in older established areas and riparian corridors).

Council then overlaid canopy cover datasets with the Australian Bureau of Statistics' Socio-Economic Indexes for Areas (SEIFA) to better understand the impact on communities most vulnerable to climate change – like those with a high proportion of elderly people, young children, or people experiencing social disadvantage. This insight allowed Council to determine priority areas for tree planting.

Neighbourhoods with the lowest SEIFA index were mapped and cross-referenced down to the individual street level to identify those most vulnerable to heat extremes. The project team created a high-resolution web-based mapping tool to better analyse the data and directly target areas. The mapping exercise set benchmarks and priorities that inform Council's canopy target and will eventually form part of an urban cooling strategy. The mapping exercise will be repeated in five-to-10 years to evaluate progress towards the tree planting canopy target.



Wagga Wagga CBD temperature and vegetation mapping

Outcomes

Using the initial data as a guide, 325 trees were planted in autumn and winter of 2021. These trees now line roadside reserves and active travel paths, enhance recreational areas and public open spaces in suburbs with low canopy cover rates, higher urban heat, and in neighbourhoods with low SEIFA index.

In January 2022, a survey of more than 330 residents revealed the broad community support for Council's strategy. Residents were emphatic they want "more trees please", with 91% of respondents noting that there were not enough trees in Wagga Wagga. Residents also understood the link between tree coverage and urban cooling

with 98% agreeing that “planting more trees will keep our city cooler during warmer months”.

The survey uncovered overwhelming support for tree plantings across all land uses including road reserves, sports grounds, open spaces, public parks and gardens, and private residences. Residents were also invited to nominate specific locations for tree planting with 245 respondents making recommendations.

Key Learnings

A series of projects are now in the pipeline. For example, an education program focused on climate change resilience and the risks associated with living in a warming environment is underway.

Another project, One Tree for Me campaign, aims to plant 65,000 seedlings in the local area over six years – roughly one seedling for every resident.

A ‘Cool Schools’ workshop will show students how to conduct a temperature survey of their school and create a school heat map. By comparing the warmer and cooler areas, students will make recommendations for how their school can keep cool in the warmer months.

The project has also uncovered valuable insights into community attitudes to canopy cover, and provides an evidence base for future community conversations.

More information

Learn more about [Wagga City Council's urban tree cover survey](#).

Contact

Name: Jason Carroll
Position: Environmental Monitoring Officer
Phone: 02 6926 9512
Email: carroll.jason@wagga.nsw.gov.au



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